Garrard

80 Mk II

AUTO
TURNTABLE

INSTRUCTIONS

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Garrard

AUTO TRANSCRIPTION TURNTABLE
LAB. 80 Mk II

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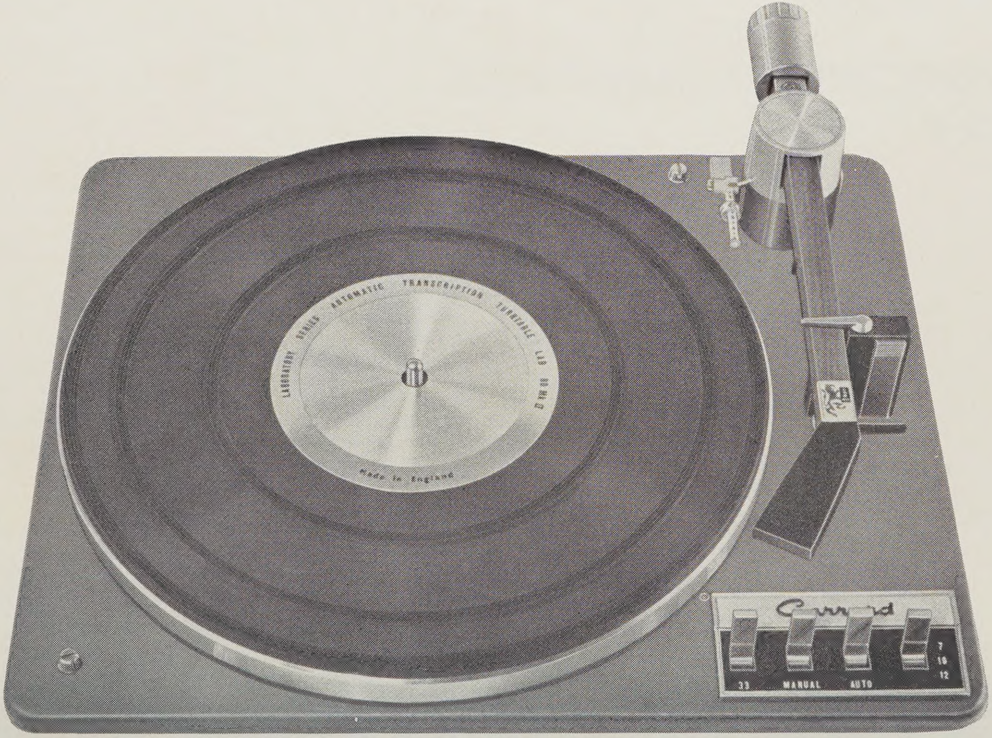
introduction

The Lab. 80 Mk. II is an auto turntable which combines transcription class performance with the facility for playing records automatically if desired. Its development represents an advance in auto turntable design which is welcome to the more discerning user. Such are the number of innovations introduced on this unit that instead of listing its features in this foreword, we have described the most important ones and their function, at appropriate points in this booklet. Suffice for us to say that the handsome styling and high standard of engineering have resulted in a model which is a worthy successor to the long line of famous Garrard record playing units.


LABORATORY SERIES AUTOMATIC TRANSCRIPTION TURNTABLE LAB 80 MK II
Made in England
Garrard
33
MANUAL
AUTO
7
10
12

THE GARRARD LAB. 80 Mk. II AUTO TRANSCRIPTION TURNTABLE

specification

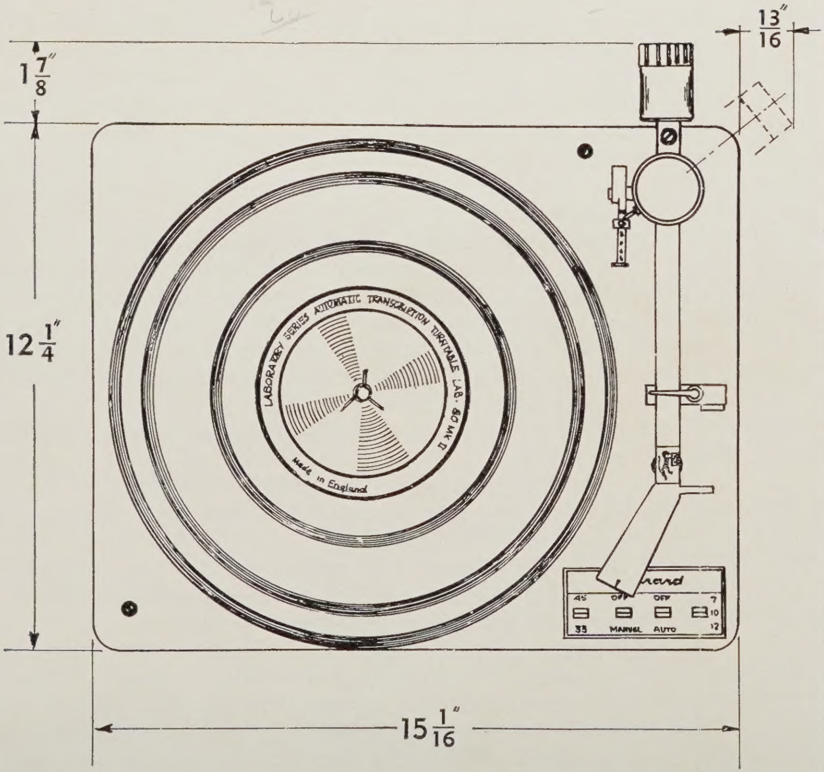


Diagram 1 Overall Dimensions

The Lab. 80 Mk. II will play 33⅓ and 45 r.p.m. records singly, or up to 8 records of the same speed and size automatically. Speeds are 33⅓ and 45 r.p.m., and record sizes are 7″, 10″ and 12″. Two record spindles are supplied, a short one for single record manual play and a long one (called the Tripoise Spindle) for auto play. An adaptor is also supplied for playing large hole 45 r.p.m. records manually and to play these records automatically a large record spindle (type L.R.S.9) is available as an optional extra.

installation

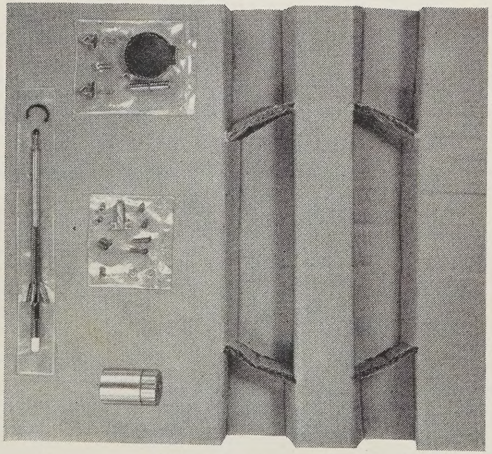


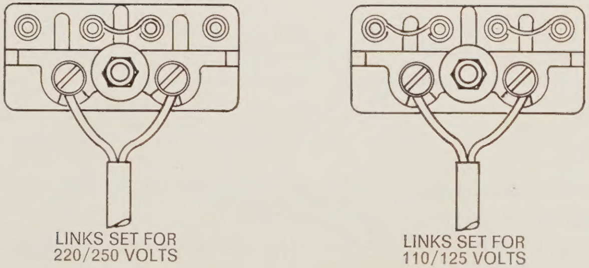
Diagram 2 Typical Accessory Tray Contents

The instructions on pages 4 to 8 may not apply if your unit is already fitted into a cabinet.

Fitting

1 Drill and cut Motor Board to template supplied. Do not moisten template, as it may distort. Recommended board thickness is $\frac{5}{16}''$ to $\frac{1}{2}''$. If thicker board is used, recess transit screw holes underneath $1\frac{1}{8}''$ dia. to reduce thickness to $\frac{1}{2}''$.
2 Attach Power Supply, earth and audio leads.
3 Check that transit screws are screwed right down. Turn clips vertical and place unit on board with screws passing through appropriate holes. Verify that foam pads are in the mounting springs and that springs engage recesses in board, then press down into position and turn transit screw clips horizontal.
4 Fit turntable on its spindle, checking that the locations are clean.
5 Fit spring retaining clip on turntable spindle.
6 Fit turntable mat, locating it in the small well in the centre of the turntable.
7 Initially fit the manual record spindle and check that turntable rotates freely without engaging the mechanism. Fit Tripoise spindle later when required.
8 If desired, attach record spindle holder kit to cabinet.
9 Assemble pickup arm counterbalance weight, engage bias compensator by moving pickup arm to the right and lifting the long arm of the compensator just above the horizontal, afterwards returning the pickup arm to its rest position. Then set counterbalance, bias compensator and stylus pressure as instructed on page 8.

wiring


LINKS SET FOR 220/250 VOLTS

LINKS SET FOR 110/125 VOLTS

Diagram 3

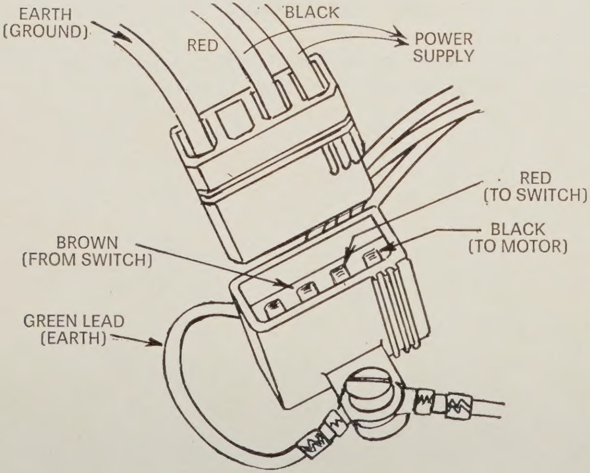


Diagram 4

The Lab. 80 Mk. II can be supplied as a single voltage range model for 100/130 volts A.C. or as a dual voltage range model for 100/130 and 200/250 volts A.C. If the latter, the required voltage range is selected by the position of the two wire links in the combined voltage changeover and power supply block (see diagram 3 or cover of block). The unit can be used with either 50 or 60 cycle supply, depending on the size of the motor pulley fitted. These interchangeable pulleys are colour finished for identification, nickel for 50 and brass for 60 cycle power supply.

Power Supply Leads (Line Cords)

If a combined voltage changeover and power supply block is fitted adjacent to the motor, attach a lead to its terminals as in diagram 3. If a line cord socket is fitted, attach a line cord with a suitable plug (diagram 4).

If a line cord is already fitted, make appropriate connections to the power supply.

Earth (Ground) Lead

Attach a lead between a good earthing point and the earth tag located behind the bracket supporting the voltage changeover block. When a line cord socket is fitted, the unit can be earthed from the appropriate (green lead) terminal in the socket (diagram 4).

Amplifier (Pickup) Leads

Connect pickup leads from the amplifier to the tags on the muting switch shown in diagram 5. The muting switch (diagram 5), located under the unit, terminates the pickup leads and is partly hidden by a magnetic screen. To reach the switch, remove the clip securing the screen to its locating pillar, lift the screen from the pillar, then

wiring continued

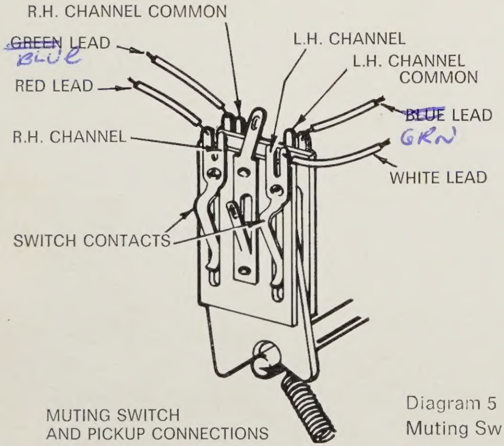


Diagram 5
Muting Switch

MUTING SWITCH
AND PICKUP CONNECTIONS

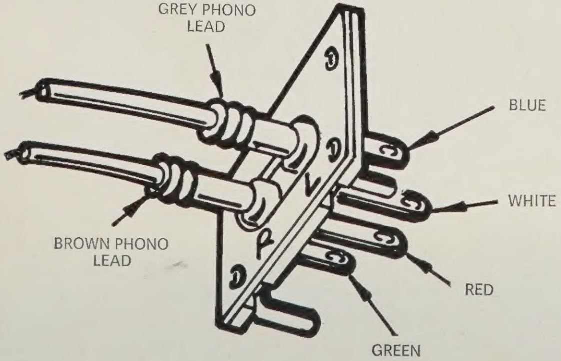


Diagram 6 Phono Lead connections

slide it free from the muting switch support (diagram 13). Avoid damage to the leads attached to the screen. Should the unit be connected to an amplifier whose chassis and input connections are not isolated from the power supply, it is essential that isolating components be incorporated in its pickup circuit. If in doubt, consult your dealer.

To avoid hum the common leads of the two channels should be connected to the input earth points on the amplifier.

When using a stereophonic cartridge with a monophonic amplifier, parallel the two channels.

If a phono socket and phono leads are already fitted, the brown lead carries the right hand channel and the grey lead carries the left hand channel. When a monophonic cartridge is fitted, use only the right hand channel (diagram 6).

Note: Make sure all leads have adequate freedom so that they do not restrict the movement of the unit on its springs.

fitting pickup cartridge

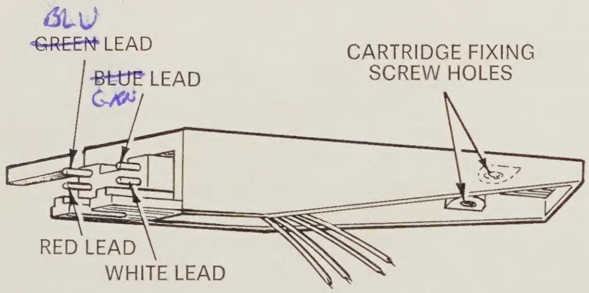


Diagram 7 M8 Pickup Shell

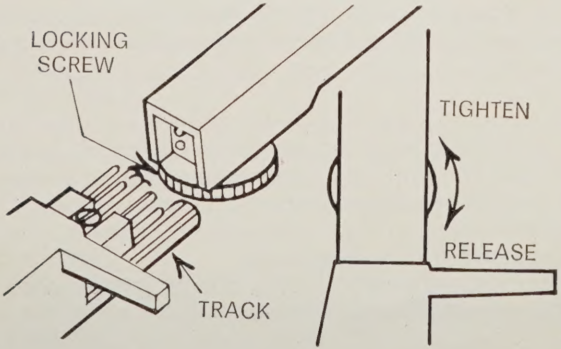


Diagram 8 Clamping Pickup Shell

A plug-in pickup shell designated M8 is used on Lab. 80 Mk. II. This is normally supplied without a pickup cartridge. The pickup shell kit (part number 71208) comprises the pickup shell, and accessory kit (part number 59048) allowing a wide range of cartridges to be fitted. The accessory kit consists of alternative pairs of screws, washers, spacers and a weight. The cartridge should be secured centrally to the pickup shell using screws of the appropriate length. Fit the washers under the screw heads if the holes in the cartridge harness are larger than the screw heads. Use the spacers between cartridge and shell if extra depth is necessary. Use the weight as ballast if a lightweight cartridge is fitted of actual weight less than 5 grammes.

Connect the colour coded pickup leads in the pickup shell to the connecting tags on the cartridge (diagram 7); if these connections are sockets, a special connector should be used. On no account must leads be soldered to the tags on the pickup cartridge. The colour coding of Lab. 80 Mk. II pickup leads is as follows:—

Red — Right Hand Channel
BLUE ~~Green~~ — Right Hand Channel (common)
White — Left Hand Channel
GRN ~~Blue~~ — Left Hand Channel (common)

On certain units a black pickup lead is used to earth the pickup arm As the M8 is a metal shell, remove any cartridge ‘ground strap’. For cartridges having three connections, use the green as the common or join the green and blue leads together to use as common. Insulate and tuck away any leads not required. When fitting the pick-up head, make sure the tracks on the head line up with the arm, and clamp the head firmly in position by means of the large locking screw. See diagram 8.

installation adjustments

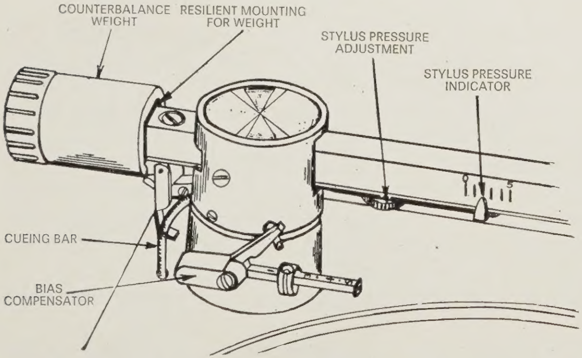

COUNTERBALANCE WEIGHT
RESILIENT MOUNTING FOR WEIGHT
STYLUS PRESSURE ADJUSTMENT
STYLUS PRESSURE INDICATOR
CUEING BAR
BIAS COMPENSATOR

Diagram 9 Pickup Stylus Pressure Adjustment

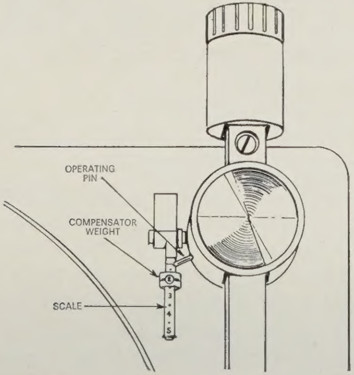


Diagram 10 Bias Compensator

Pickup Stylus Pressure
Check that the stylus pressure adjustment screw is turned fully clockwise (looking down on arm) so that the stylus pressure indicator is on its zero mark. See diagram 9. Fit the counterbalance weight to the rear of the pickup arm, with its slot underneath, as in diagram 9, then set the pickup arm in its playing position by releasing it from its rest and squeezing the cueing control if the arm is not free. Adjust the counterbalance weight by screwing its knurled end along the arm in the direction which balances the pickup horizontally. With the pickup arm in balance, apply the stylus pressure required for the cartridge fitted by turning the stylus pressure adjustment screw counterclockwise until the indicator reads the desired pressure. The indications on the arm cover a range of 0 to 5 grammes and each click of the adjustment screw as it is turned represents an adjustment of approximately $\frac{1}{4}$ gramme.
The combination of visual marking and audible clicks ensures a particularly positive yet sensitive form of stylus pressure adjustment.

Bias Compensator
A movable weight is threaded on to the arm of the bias compensator which has numbers marked on it. The numbers represent bias compensation for 0 to 5 grammes stylus pressure. Position the weight at the number corresponding to the stylus pressure applied, then engage the bias compensator as in diagram 10.
This unique form of bias compensation is a simple but extremely effective way of compensating pickup arm side forces.

Manual Play

1 Use short record spindle, check speed control setting, remove stylus guard, if fitted, and release pickup arm safety catch.

2 Move manual control to 'Manual'. Position the pickup arm over the record, then squeeze cueing control to lower pickup (see diagram 11).

To raise pickup at any time, move manual control to 'Manual'—Turntable will continue to revolve; to lower pickup, squeeze cueing control tab.

The pickup arm will return to its rest and the unit will switch off after the record has played or if auto control is moved to 'Auto'.

Cueing Feature

As stated under Manual Play, the pickup may be lifted at any time—on Manual or Auto Play. This gives facility for interrupting play at any time without switching off the mechanism.

The cueing feature is also useful for repeating any portion of a record, or for skipping any unwanted passage or passages. It is particularly useful when the unit is used as a Single Record Player, ensuring safe handling of the pickup.

Auto Play

1 Fit Tripoise record spindle. This can only be fitted or withdrawn with unit in automatically switched-off position.

2 Check settings as for Manual Play, including record size selector.

3 Load records on spindle and switch on by moving auto control to 'Auto'. The pickup arm will return to its rest and the unit will switch off after the last record has played.

Single Record Auto Play

A special feature of the Lab. 80 Mk. II Unit is that it is possible to play a single record automatically, using the short record spindle.

To do so the short Manual Spindle should be inserted, the correct record size selected and the record placed upon the turntable. By operating the 'Auto' control tab to 'Auto' the pickup will then automatically alight at the commencement of the record. After completion, it will return to the rest and the motor will then be switched off.

Automatic Repeat (with Tripoise spindle)

Using the Tripoise spindle, a single record may be repeated indefinitely by placing the large centre hole adaptor, with hollow side uppermost on top of it when it is first loaded on the spindle. After switching on in the normal way using the 'Auto' tab, the record will continue to repeat until the adaptor is removed from the spindle. This should be done during the playing period and not during the changing cycle, and care must be taken not to use force.

Manual Repeat (with either spindle)

The pickup may be returned to the commencement of either a single record or the last one of a stack for repeating it, by operating the 'Auto' tab at any time during play or at the conclusion of the record. The tab must be held

operating instructions continued

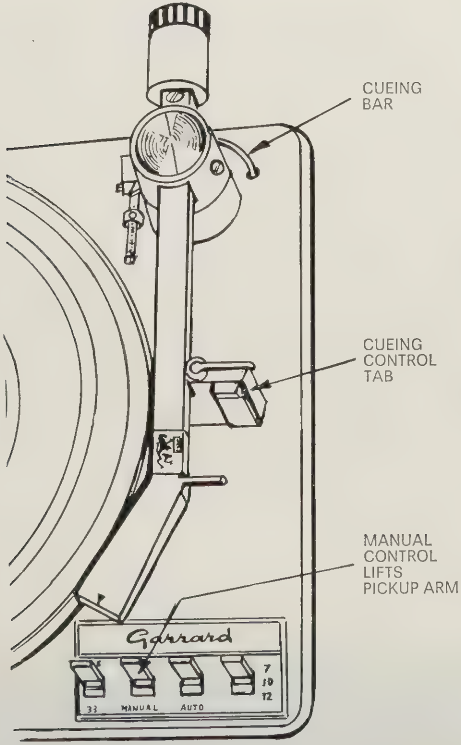


Diagram 11 Cueing Controls

down while the arm is lifting and moving outwards, and not released until it has started to move away from the pickup rest.

To Stop

To temporarily stop, move manual control to 'Manual', this raises pickup; then move control to 'Off'.

To Reject

Move auto control to 'Auto'.

To Unload

1. For auto play, when the unit has automatically switched off, pull out the Tripoise spindle and remove the records from the turntable.
2. Replace the Tripoise spindle if the unit is to be used for auto play again.

General Notes

To avoid the risk of damage to the mechanism or records, refrain from moving the pickup arm by hand or rotating the turntable counterclockwise, with the auto cycle engaged; note that the speed change mechanism is interlocked as a safety measure while playing.

Keep the stylus free from accumulated dust and replace it when worn. Do not leave records on the unit when not in use. Store and clean them as recommended by the record manufacturer.

The Lab. 80 Mk. II turntable mat is made from electrically conducting rubber. This neutralises the static electric charge of the record while on the turntable, making it less attractive to dust particles and easier to clean.

Caution: Always switch off power supply and protect pick-up stylus before making any adjustments.

To remove turntable

Remove record spindle and turntable mat, then prise off the turntable retaining clip, using a small screwdriver. Now lift off the turntable by applying equal pressure on diametrically opposite sides. Should the turntable be difficult to remove, fit the short record spindle and, while lifting the turntable as above, have an assistant gently tap the top of the record spindle with a piece of wood such as a screwdriver handle.

To fit turntable

Check that the turntable spindle and the centre hole of the turntable are clean, then carefully assemble turntable on to spindle, and rotate it clockwise to make sure that the mechanism is not engaged. Fit retaining clip, mat and record spindle.

Lubrication

The bearings of the motor, turntable spindle and inter wheel are of the oil-retaining type, and rarely need lubricating. When the need for oil is apparent, hold the inter wheel away from the motor pulley and apply a few drops of fine grade oil to the top motor bearing. Also oil the bearings of the inter wheel (taking care not to get oil on to the rubber surface), the turntable spindle and, occasionally, the bottom motor bearing. If any pivots appear noticeably stiff, apply a little oil; also smear the cam surfaces with a light grade of grease. Before replacing turntable, wipe any traces of oil from motor pulley, inter wheel and turntable rim (see diagram 15).

Note: Do not oil the cueing mechanism. If the need becomes apparent, special damping fluid and instructions for applying it are available.

To remove motor pulley

To ensure true running, there is minimum clearance between pulley bore and motor shaft, but the pulley should easily pull off when its locking screws are loosened. Should it be found to be tight on the shaft, however, apply gentle heat to the base of the pulley for about 30 seconds, using a small, clean soldering iron, after which it should slide off easily. A similar expedient can be adopted when replacing a tight pulley, but care must always be taken to avoid damaging the inter wheel or motor wiring when using the soldering iron.

service adjustments

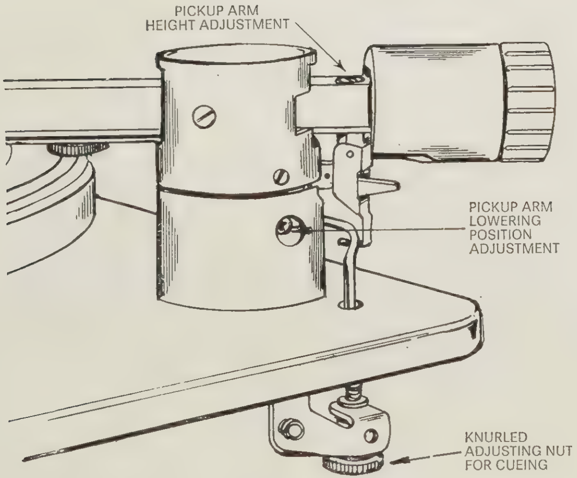

PICKUP ARM HEIGHT ADJUSTMENT
PICKUP ARM LOWERING POSITION ADJUSTMENT
KNURLED ADJUSTING NUT FOR CUEING

Diagram 12

Caution: Always switch off power supply and protect pickup stylus before making any adjustments.

If required, operate auto control and rotate the turntable clockwise by hand to actuate the mechanism.

Speed

Lab. 80 Mk. II is designed to give the correct turntable speed within close tolerances. If the turntable does run excessively fast or slow, the motor pulley (diagram 15) may not be correct for the frequency of the power supply. Check motor pulley colour finish; nickel for 50 and brass for 60 cycles. Fit a replacement pulley if necessary. To reach the motor pulley, remove turntable as described on page 11 under 'Maintenance'. Should the speed vary during playing, examine the motor pulley, intermediate wheel and inside of turntable rim for traces of oil. Wipe them thoroughly with a clean cloth. Check that the motor pulley is in its correct position on the motor shaft with the intermediate wheel running in the centre of the appropriate pulley step and not rubbing on the side of the adjacent step. If necessary, loosen the pulley lock screws and move the pulley to its correct position, then equally tighten the three lock screws. See 'Maintenance', page 11, if pulley is tight.

Motor

If the motor fails to start when the unit is switched on, check the power supply to see that current is reaching the motor; also, with the power supply disconnected, check the motor connections (including plug-in leads). Remove the turntable and screening plate (see diagram 15) to gain access to the motor switch. See that the

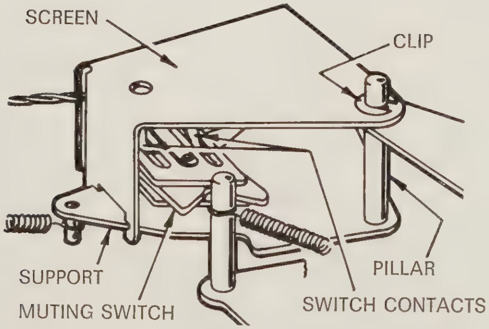


Diagram 13

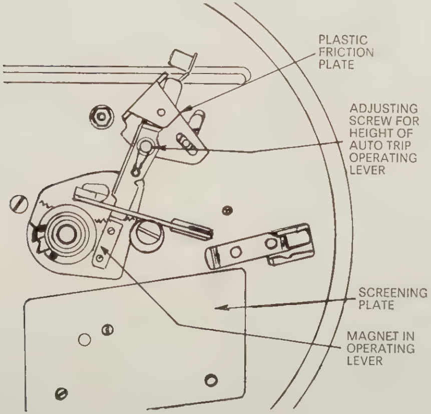

PLASTIC FRICTION PLATE
ADJUSTING SCREW FOR HEIGHT OF AUTO TRIP OPERATING LEVER
SCREENING PLATE
MAGNET IN OPERATING LEVER

Diagram 14

switch blades are clean and make good contact. If a dual voltage range model, check the setting and secureness of the changeover links in the block and make sure the motor is suitable for the supply voltage. Electrical details are labelled on the side of the motor. The coils on the motor are fitted with plug-in leads on this unit.

Pickup Lowering Position

The pickup lowering position may require adjustment if a new pickup cartridge has been fitted or if the unit is supplied without one. Swing the pickup arm in to approximately its 7″ position; this gives access to the lowering position adjustment screw through the hole in the side of the pickup base, see diagram 12. Turn this screw clockwise to move the lowering position in and counterclockwise to move it out. Alternatively, commence to play a 7″ record automatically and stop the unit to adjust by the method described. If your records have a raised edge or chamfer (called a groove guard), make sure the pickup arm lands inside this chamfer, otherwise it may slide across the first few record grooves.

Pickup Height Adjustment

The pickup height may require setting if a new pickup cartridge has been fitted. The adjusting screw is on the top face of the pickup arm just behind the pickup base. See diagram 12. Turn the screw clockwise to raise the pickup and counterclockwise to lower. The stylus point should be set $\frac{3}{4}$″ above one record on the turntable as the pickup arm returns to its rest. If the adjusting screw is hidden by the counterbalance weight, the weight will need to be turned back before adjusting, then reset.

service adjustments continued

Cueing Device Adjustment

With the pickup arm raised by operating the manual control tab, the height between the turntable mat and the stylus point should normally be ½″. Adjustment can be obtained by turning the knurled plastic nut on the cueing bar extension beneath the unit plate, see diagram 12.

Note: Do not lubricate the cueing mechanism as it uses special damping fluid.

Pickup Tracking

If the pickup arm tracks incorrectly, check that the correct radius stylus is in use and is clean and not worn. See that the pickup leads allow the arm complete freedom of movement. Make sure that the stylus pressure is that recommended by the pickup cartridge manufacturer and that the bias compensator setting corresponds. Also check that the cueing bar is not rubbing the link at the rear of the pickup arm. Adjust the cueing if necessary.

Pickup muting switch

The muting switch contacts (diagram 13), close to short-circuit and silence the pickup output while the changing mechanism is in operation. If faulty, check that the contacts are clean and that they open and close completely. Clean them if necessary. The muting switch, located under the unit, terminates the pickup leads and is partly hidden by a magnetic screen. To reach the switch, remove the clip securing the screen to its locating pillar, lift the screen from the pillar then slide it free from the muting switch support. Avoid damage to the leads attached to the screen.

Auto trip

A sensitive magnetic repulsion auto trip completely eliminates mechanical contact between striker and trip lever prior to tripping. The auto trip features a special plastic friction plate, making the load on the pickup arm infinitesimal and is completely disconnected from the arm after tripping. If the trip consistently fails, leaving the pickup running in the centre of a record, remove the turntable ('Maintenance', page 11), and adjust the trip lever height, up or down, by means of its adjusting screw (diagram 14), so that the striker will raise the trip lever when the pickup accelerates in the lead-out groove of the record. Also check that the plastic friction plate is clean and free from oil and dust.

Service

If you require any further information or advice not covered by this booklet, please contact your dealer or, in the case of difficulty, our Service and Spares Department, or Garrard Agent.

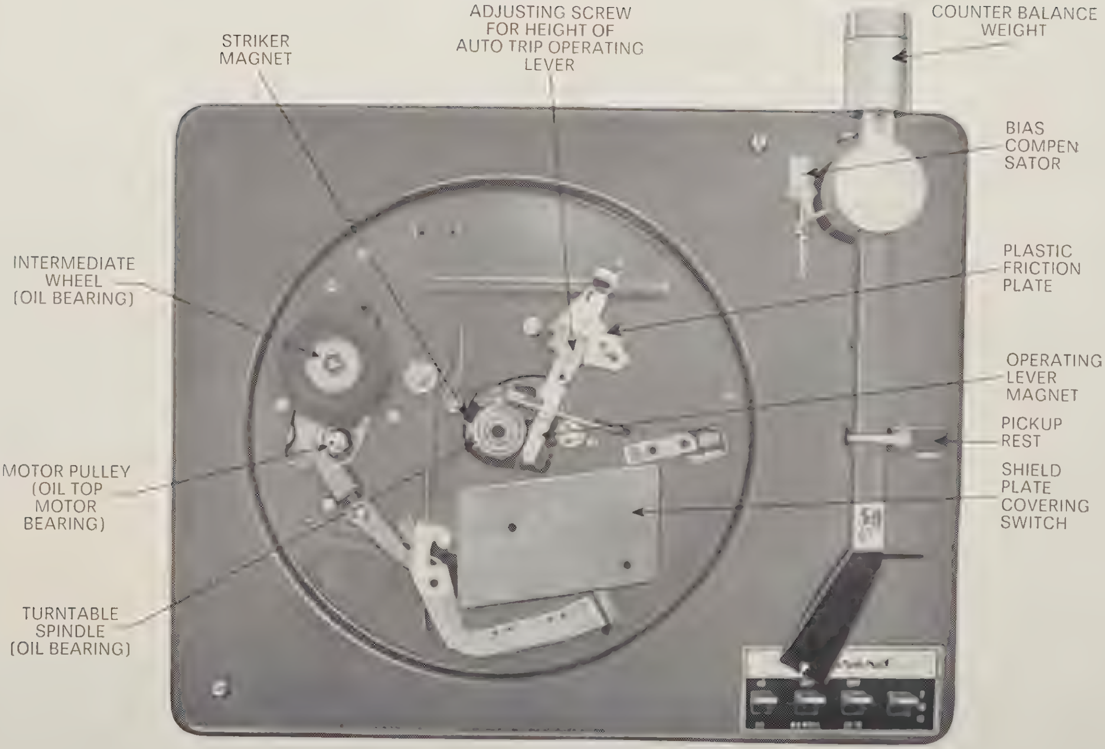

STRIKER MAGNET
ADJUSTING SCREW FOR HEIGHT OF AUTO TRIP OPERATING LEVER
COUNTER BALANCE WEIGHT
BIAS COMPEN SATOR
INTERMEDIATE WHEEL (OIL BEARING)
PLASTIC FRICTION PLATE
OPERATING LEVER MAGNET
PICKUP REST
MOTOR PULLEY (OIL TOP MOTOR BEARING)
SHIELD PLATE COVERING SWITCH
TURNTABLE SPINDLE (OIL BEARING)

Diagram 15 Top view with turntable removed.

service and spares

Service and Spares enquiries to:—
Garrard Engineering Limited, Service and Spares Department, Newcastle Street, Swindon, Wilts. Telephone No. Swindon 5381.

In U.S.A.:—
Garrard Sales Corporation, Westbury, New York 11590.

spare parts list

When ordering spares, please quote Lab. 80 Mk. II, code (from inspection label), part number if listed and colour, voltage and frequency when applicable. Also reference number stamped on underside of unit plate.

Part number	**Description**
72071	Tripoise Record Spindle
70754	Manual Record Spindle
72698	Large Centre Hole Manual Record Spindle Adaptor
71140	Large Centre Hole Record Spindle, L.R.S.9
72557	Turntable Assembly
72558	Turntable Mat Assembly
53176	Turntable Clip
72641	Pickup Arm (less shell)
44809	Stylus Pressure Spring
71208	Garrard M8 Pickup Shell Kit (less cartridge)
71724	Damping Fluid for Cueing Mechanism
72522	Bias Compensator Lever Assembly
70721	Spacer for Bias Compensator
70720	Pivot Screws for Bias Compensator
70773	Counterbalance Weight Assembly
53883	Rubber Intermediate Wheel
60097	Motor Pulley Assembly 50 cycles
60096	Motor Pulley Assembly 60 Cycles
58179	Cover for Dual Voltage Changeover Block
41012	Nut for 58179.
72741	Switch Unit
60410	Low Voltage Range Motor
60420	Dual Voltage Range Motor
60365	Plug-in Motor Lead Assembly with Switch, etc.
41977	Transit Screw Clips (2)

Printed in England B.P. 1/67

72648

Garrard LAB 80 MkII

summary of operating instructions

For full instructions see manual.

Manual Play

1 Use short record spindle, check speed control setting, remove stylus guard, if fitted

2 Release pickup arm safety catch, move manual control to 'Manual.' Position the pickup arm over record, squeeze cueing control to lower pickup.
To raise pickup at any time, move manual control to 'Manual'; to lower, squeeze cueing control.

Automatic Play

WITH AUTOMATIC SPINDLE

1 Fit automatic record spindle. This can only be fitted or withdrawn with unit in automatically switched-off position, at the end of a playing cycle.

2 Check speed and record size selected. Load records, switch on by moving auto control to 'Auto'.

WITH MANUAL SPINDLE FOR SINGLE RECORD

1 Fit short record spindle and proceed as at 2 above.

FOLD HERE TO STAND CARD

2 To replay single record, move control to 'Auto' and hold it down until the pickup arm commences to move away from the rest.

Note that the unit features a safety lock to prevent changing speed while playing, also the turntable should not be rotated counterclockwise.

To Stop

To temporarily stop, move manual control to 'Manual,' this raises pickup, then move control to 'Off.'

To Reject

Move auto control to 'Auto.'

If you need to remove the pickup head, take care when replacing, that the tracks on the head locate against the underside of the arm, thus aligning the connector pins correctly.

Setting Bias Compensator overleaf.

garrard engineering limited

Suggestion: Place this card in a prominent position until familiarised with your unit.

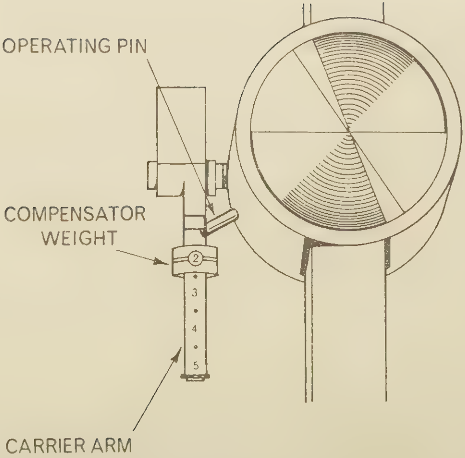
PRINTED IN ENGLAND 72808

Setting Bias Compensator

The Garrard Lab. 80 Mk II is fitted with an exclusive bias compensator (patents applied for) which counteracts the side force of the pickup towards the turntable centre when playing. This force varies according to the stylus pressure. Garrard provide a moveable weight on their compensator which should be set to correspond with the stylus pressure used.

To set the compensator, slide the weight along the carrier arm until the stylus pressure in grams appears in the centre of the window. Markings between figures represent half gram increments.

When adjusting the pickup arm counterbalance it is convenient to disengage the bias compensator. This can be done, when the unit is at rest, by lifting the pickup arm and moving it to the right.



LAB. 80 Mk II BIAS COMPENSATOR

Garrard LAB 80 Mk II

summary of operating instructions

For full instructions see manual.

Manual Play

1 Use short record spindle, check speed control setting, remove stylus guard, if fitted

2 Release pickup arm safety catch, move manual control to 'Manual.' Position the pickup arm over record, squeeze cueing control to lower pickup.
To raise pickup at any time, move manual control to 'Manual'; to lower, squeeze cueing control.

Automatic Play

WITH AUTOMATIC SPINDLE

1 Fit automatic record spindle. This can only be fitted or withdrawn with unit in automatically switched-off position, at the end of a playing cycle.

2 Check speed and record size selected. Load records, switch on by moving auto control to 'Auto'.

WITH MANUAL SPINDLE FOR SINGLE RECORD

1 Fit short record spindle and proceed as at 2 above.

FOLD HERE TO STAND CARD

2 To replay single record, move control to 'Auto' and hold it down until the pickup arm commences to move away from the rest.

Note that the unit features a safety lock to prevent changing speed while playing, also the turntable should not be rotated counterclockwise.

To Stop

To temporarily stop, move manual control to 'Manual,' this raises pickup, then move control to 'Off.'

To Reject

Move auto control to 'Auto.'

If you need to remove the pickup head, take care when replacing, that the tracks on the head locate against the underside of the arm, thus aligning the connector pins correctly.

Setting Bias Compensator overleaf.

garrard engineering limited

Suggestion: Place this card in a prominent position until familiarised with your unit.

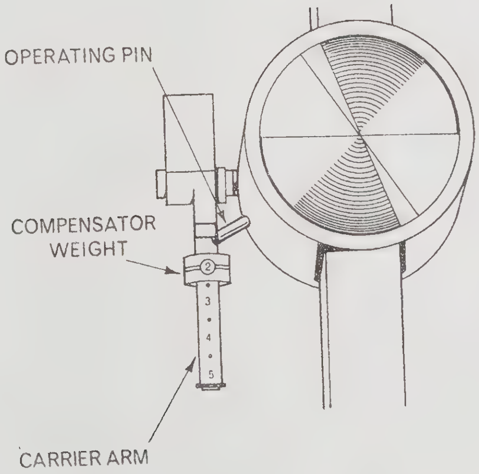
PRINTED IN ENGLAND 72808

Setting Bias Compensator

The Garrard Lab. 80 Mk II is fitted with an exclusive bias compensator (patents applied for) which counteracts the side force of the pickup towards the turntable centre when playing. This force varies according to the stylus pressure. Garrard provide a moveable weight on their compensator which should be set to correspond with the stylus pressure used.

To set the compensator, slide the weight along the carrier arm until the stylus pressure in grams appears in the centre of the window. Markings between figures represent half gram increments.

When adjusting the pickup arm counterbalance it is convenient to disengage the bias compensator. This can be done, when the unit is at rest, by lifting the pickup arm and moving it to the right.



LAB. 80 Mk II BIAS COMPENSATOR

Garrard Automatic Record Changer

Model R.C. 80

Installation, Operation and Service Instructions

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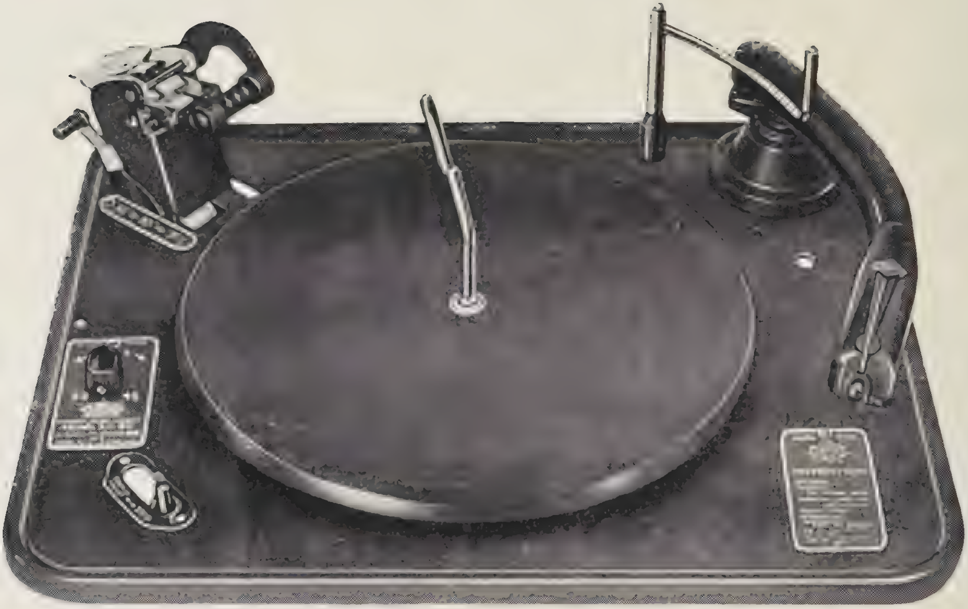


The Garrard Model R.C. 80 Automatic Record Changer is made under the following patents :—

British	.. 450906 607267	Germany	.. 666677	Sweden	.. 88739
		Swiss	.. 189688	U.S.A.	..2063199
France	.. 802949	Italy	.. 347645	Canada	.. 551634

Other Patents pending.

4391/49	14998/49	22922/49
642/50	643/50	644/50

Provisional Patents.

The Garrard Model RC 80 Record Changer

(WORLD PATENTS APPLIED FOR)

GARRARD
SWINDON
TRADE MARK

GARRARD Record Changers are simple and reliable in operation. They are thoroughly tested before leaving our Works and will give a long period of satisfactory service.

Instructions for installing and operating the Model R.C. 80 are given in this manual—please follow these instructions carefully. In common with all mechanical devices, however, minor adjustments are sometimes necessary. The Service Instructions included have been compiled to cover practically all the information necessary to ensure efficient operation.

If, after carefully perusing this manual, you are still in doubt, our Technical Department will gladly assist you.

Address your enquiries to:—

THE GARRARD ENGINEERING AND MANUFACTURING CO. LTD.,
TECHNICAL SERVICE DEPARTMENT,
NEWCASTLE STREET,
Telephone No.: Swindon 2624/5/6 SWINDON, WILTS.

If you wish to obtain spare parts or to make enquiries concerning the return of a Unit for repair, communicate with:—

THE GARRARD ENGINEERING AND MANUFACTURING CO. LTD.,
SERVICE AND SPARES DEPARTMENT,
OKUS ROAD,
Telephone No.: Swindon 3405 SWINDON, WILTS.

INSTALLATION.

Dimensions.

The cabinet space required for fitting is 15½″ long, x 13¼″ wide, with 5.3/4″ clearance above and 3.1/2″ clearance below the plate. With a slight alteration to the motor board cut out, the "GARRARD" Model R.C. 80 is a direct replacement for the "GARRARD" Models R.C. 60, 65, 65A, 70 and 70A Record Changers.

FITTING TO CABINET.

First, the motor board should be cut out and drilled as shown on the template enclosed with each changer. If the changer is to replace one of the "GARRARD" Models mentioned above, only the piece marked on the left hand side of the template need be cut out. A small clearance should be left between the edges of the unit plate and the cabinet sides, to allow the record changer to float freely when mounted on its suspension springs.

Having opened the carton, remove the turntable found on the top liner and the box containing the record spindles, then, after disposing of the side liners, carefully lift out the changer by the string loops. A bag containing the fixing screws and spring mountings will be found in one corner of the carton. The spare pick-up head and accessories, if supplied, will be found in a box fixed to the bottom liner. Assemble the spring mountings to the motor board as shown on the template and diagram 2. Next, assemble the long fixing screws to the changer mounting plate, fitting the spring washer under the nut, then assemble a nut on each screw leaving 3/8″ of thread below.

Before placing the changer in position, the auto switch arm at the rear of the changer, which on unpacking will be found in a downward position, should be turned to a vertical position as shown in the illustrations. To do this, loosen the round headed screw at the top of the auto switch spindle, turn the arm to a vertical position and re-tighten the screw.

The changer can now be placed in position on its suspension springs. Still using the string loops for lifting, the changer should be levelled by first fitting the turntable, then placing a spirit level on a record on the turntable, the changer can be adjusted by raising it and adjusting the lower nuts. When level, the nuts should be assembled under the springs and locked in position with the lock nuts. The string loops may now be removed and the changer connected to the power supply and pick-up.

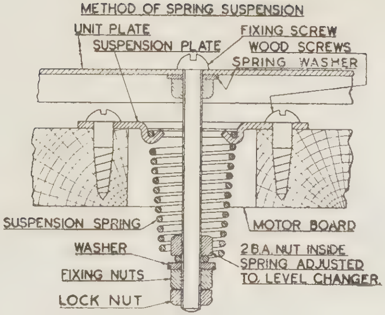


Diagram 2

It is essential to use the spring suspension assemblies on this model changer to prevent extraneous vibration from reaching the unit.

If two record spindles are used, a hole can be drilled in the wooden motor board to take the spindle not in use.

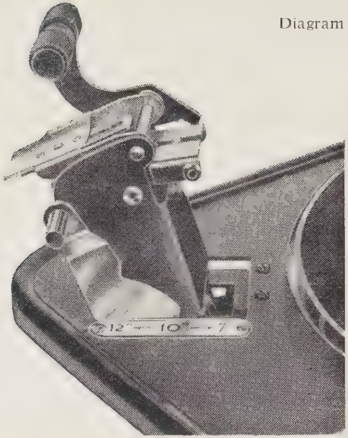
If two "GARRARD" pick-up heads are used, the plastic box in which one of the heads is supplied, can be screwed down into the cabinet to act as a dust free container for the pick-up head not in use.

If the plug-in feature is to be used to change pick-ups, the small headed screw under the pick-up arm at rear of pick-up should be loosened. This screw should be tightened for transit purposes only.

TRANSIT SCREWS.

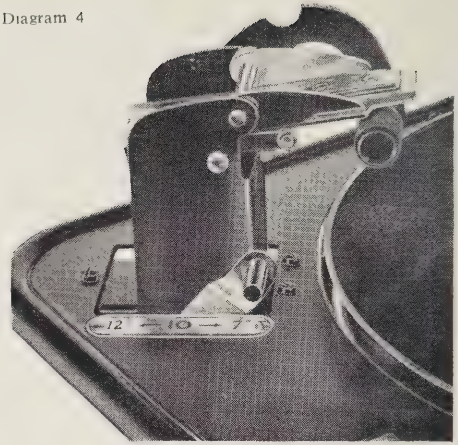
Two plated wood screws are supplied for use in clamping the record changer rigid to the motor board for transit purposes. The small bakelite washers should be fitted under these screws to prevent marking the mounting plate. These screws should be removed before using the record changer. The position of the screws is shown on template and diagram 11.

Diagram 3



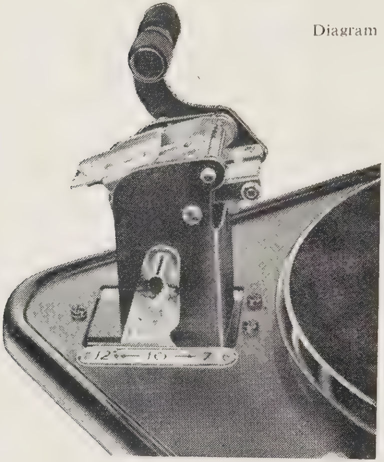
Record Platform
Set for 12″ Records

Diagram 4



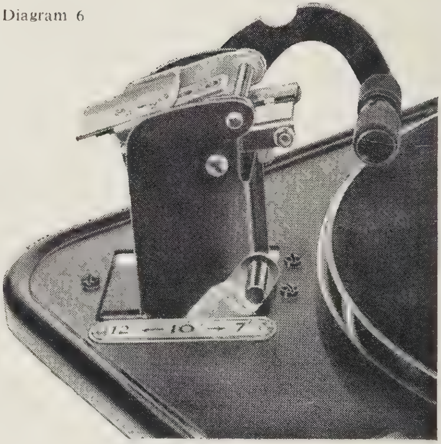
Record Platform
Set for 7″ Records

Diagram 5



Record Platform
Set for 10″ Records

Diagram 6



Record Platform set for 7″—45 r.p.m. Records
using the large Record Spindle

VOLTAGE AND FREQUENCY.

The "GARRARD" Model R.C. 80/AC. Record Changer is suitable for use on 100/130 and 200/250 volts, 50 cycles, and the links on the terminal block should be set to the correct position to correspond with the voltage of the power supply as shown in diagrams 7 and 8.

A motor driving pulley can be supplied for 40 or 60 cycle mains if required. The model R.C. 80/D.C. Record Changer is suitable for use on 100/130 and 200/250 volts direct current only and the links on the terminal block should be set to the correct position to correspond to the voltage of the power supply as shown in diagrams 9 and 10. The speed of the D.C. motor is governor controlled and information for adjusting the speed will be found under "Service Instructions."

The motor should be earthed by connecting a lead from the earthing tag, (located under one of the motor end cover screws) and a good earth connection.

When adapting an AC./DC. (Universal) Radio Receiver, Amplifier, or one using an AC./DC. Power Pack for the reproduction of gramophone records, a pick-up transformer, or condensers in series with the pick-up leads should be fitted, otherwise the pick-up circuit becomes alive. Also the leads from the radio set or amplifier to the pick-up should be screened and as short as possible.

LINK CONNECTIONS R.C.80/A.C.

This type is for A.C. only and has a brown cover to the terminal block.

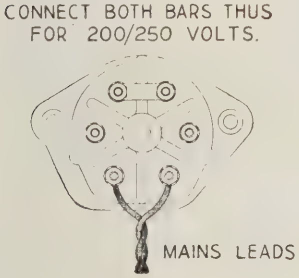


Diagram 7

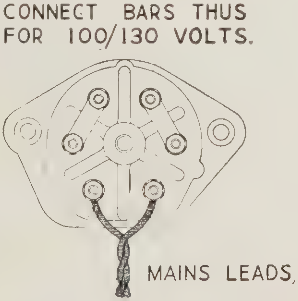


Diagram 8

LINK CONNECTIONS R.C.80/D.C.

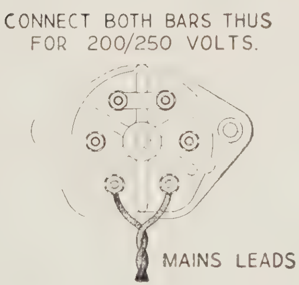


Diagram 9

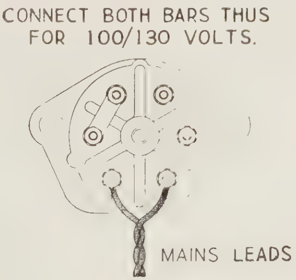


Diagram 10

MAINTENANCE.

The motor and intermediate wheel bearings, being of the oil retaining type, rarely need lubricating. When the need for oil is apparent, remove both the belts and while holding the intermediate wheel out of the way, lubricate the pulley and motor bearings with a medium grade of machine oil. Carefully remove every trace of surplus oil before replacing the belts.

The rubber rim on the intermediate wheel and the two belts must be kept free from oil.

OPERATING INSTRUCTIONS

The "GARRARD" Model R.C.80 Automatic Record Changer will play any number of records up to 10, of any of the following types (not mixed):—

10″ or 12″ - 78 r.p.m.
7″, 10″ or 12″ - 33.1/3 r.p.m.
7″ - 45 r.p.m.

To operate the Record Changer proceed in the following order:—

1 See that the correct pick-up is in position for the type of record to be played, i.e., one having a Standard .002″ to .003″ radius needle for 78 r.p.m. records, or .001″ radius needle for 33.1/3 and 45 r.p.m. records. The pick-up head is plugged into the arm and a slight pull is all that is necessary to remove it.

2 Place the correct record spindle in position, i.e. stepped sloping spindle for 78 or 33.1/3 r.p.m. records. (See diagram 13).

3 Set lever at side of platform to size of record it is desired to play, 7″, 10″ or 12″. Also turn subsidiary platform to forward position if it is desired to play 7″ records with small hole. (See diagram 4).

4 Turn speed control knob to desired speed, 78, 45 or 33.1/3 r.p.m.

5 Place any number of records up to 10, (not mixed) on record spindle, lower overarm, and switch on by moving the front left hand knob to "Start". **Note:** The overarm is not used when playing 7″ records.

To reject a record, move the left hand knob to the "Reject,, position.

The changer can be switched off by moving the left hand knob to the "Stop" position. If this is done while a record is playing, when switching on again, that record will be automatically rejected and the next record commenced.

NOTE:

Should the record changer be stopped with the pick-up arm not on its rest, the pick-up should not be handled, but the left hand knob moved to "start", then the pick-up will automatically lift and return to its rest position and stop if no records are on the record spindle.

The pick-up arm will not move from its rest unless one or more records are placed on the record spindle. This is a safety device designed to prevent the pick-up being damaged should the changer be switched on without being loaded with records.

RECORDS.

To obtain the best results from your records and record changer, care should be taken to see that the records are stored so that they keep reasonably flat and clean. Dust or dirt in the record grooves causes abrasive action and shortens the life of the record, whilst badly warped records will give trouble in dropping, poor reproduction, and even damage the pick-up stylus.

SERVICE ADJUSTMENTS

SPEED.

The speed of the R.C. 80/AC. Motor is arranged to give the desired turntable speed within close tolerances. Should the turntable speed run excessively fast or slow then the motor pulley should be examined to see if it is the correct one to suit the frequency of the mains supply.

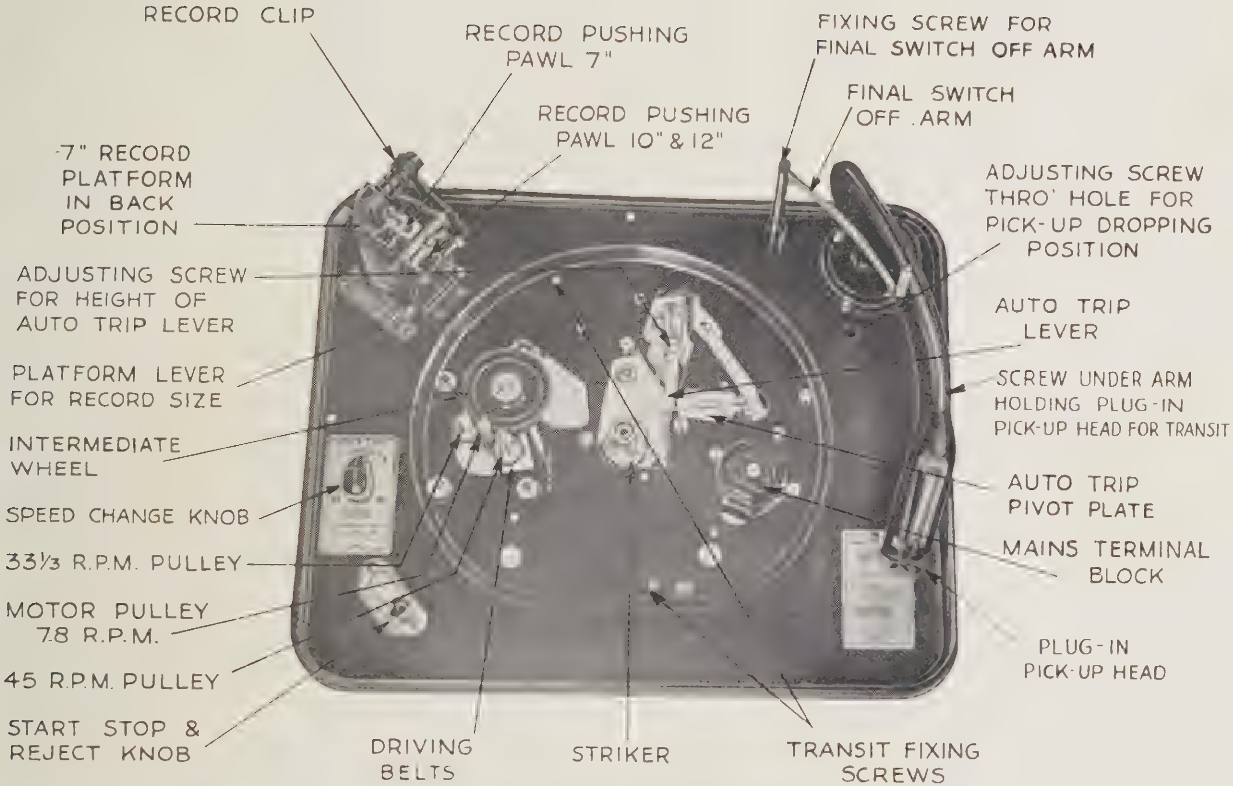
The various motor pulleys are colour finished as follows to distinguish the three types:—

Nickel - 50 cycles.
Brass - 60 cycles.
Copper - 40 cycles.

The speed of the R.C. 80/DC. and low voltage Models, is governor controlled, the governor being located at the lower end of the motor and is screwed on to the armature shaft and held in position by a screw through the governor collar. To adjust the speed, loosen the screw in the governor a very small amount, and turn the governor clockwise to increase the speed or anti-clockwise to reduce it. Tighten the screw before running the motor to check the speed.

SPEED VARIATION.

It is essential that the driving surfaces of the three brass pulleys, the rubber tyred interwheel, and the belts, should be kept absolutely free from all oil or grease. This is the first point which must be checked if the turntable speed varies and the pulleys, belts and interwheels should be cleaned with a dry cloth. Another point to check is that the two belts run centrally on their pulleys, should they tend to run off the pulley, try removing the belt and turning it over. If this does not cure the trouble, a new belt should be fitted. Also see that the main spindle has a small amount of end play. To check this, remove the turntable and grip the main spindle firmly lifting it up and down. If no movement is felt, loosen the two screws (diagram 12) which holds the fixed portion of the main spindle, raise the main spindle a very small amount and re-tighten the screws.


RECORD CLIP
RECORD PUSHING PAWL 7"
FIXING SCREW FOR FINAL SWITCH OFF ARM
FINAL SWITCH OFF ARM
RECORD PUSHING PAWL 10" & 12"
7" RECORD PLATFORM IN BACK POSITION
ADJUSTING SCREW THRO' HOLE FOR PICK-UP DROPPING POSITION
ADJUSTING SCREW FOR HEIGHT OF AUTO TRIP LEVER
AUTO TRIP LEVER
PLATFORM LEVER FOR RECORD SIZE
SCREW UNDER ARM HOLDING PLUG-IN PICK-UP HEAD FOR TRANSIT
INTERMEDIATE WHEEL
AUTO TRIP PIVOT PLATE
SPEED CHANGE KNOB
MAINS TERMINAL BLOCK
33⅓ R.P.M. PULLEY
MOTOR PULLEY 78 R.P.M.
PLUG-IN PICK-UP HEAD
45 R.P.M. PULLEY
START STOP & REJECT KNOB
DRIVING BELTS
STRIKER
TRANSIT FIXING SCREWS

View with Turntable Removed

Diagram 11

NOISE.

Should the drive become noisy, first see that the screw holding the pulley to the motor shaft is not touching the intermediate wheel as it revolves. If it is, raise the pulley by loosening the screw holding it to the shaft. If the motor pulley is correct, then lubricate the pulleys as described under "Maintenance."

MOTORS.

If the motor fails to start when the control knob is turned to "Start," first check the power supply and ascertain if current is reaching the motor terminals. If correct, switch off the mains supply and examine the terminal block and see that the leads and screws are tight, also examine the switch contacts accessible underneath. Clean and adjust if necessary. On the R.C. 80/DC. and low voltage models, examine the motor brushes and make sure that they are clean and making good contact with the commutator. Also ensure that they are not sticking in the brush tubes.

The "Switch Catch Lever" (diagram 12) should also be checked to see that it is engaging when the knob is moved to "Start." If it fails to engage, adjustment is provided on the link which operates it to allow it to drop into engagement with the switch lever and hold it in position.

If a thick oil has been used to lubricate the motor bearings, the motor will appear weak or will not start. It will then be necessary to dismantle the motor and clean away all traces of the the thick oil. It is, therefore, essential to lubricate the motor bearings with a good quality thin oil.

Should the motor get too hot, see that the voltage changeover links are set correctly to correspond with the voltage of the power supply. If correct, check the motor windings by inserting an AC. milli-ammeter in either motor lead.

The maximum current consumption of the R.C. 80/AC. should not exceed 0.26 amps. on 100/130 volts. 50/60 cycles, or 0.13 amps. on 200/250 volts 50/60 cycles. On the R.C. 80/D.C. the current should not exceed .26 amps. on 100/130 volts or .23 amps. on 200/250 volts. On the low voltage 12 volt model, the current should not exceed 1.2 amps. or the 6 volt model 2 amps.

If readings in excess of the above figures are obtained, the motor unit should be returned for examination.

To remove the motor, first make sure the electricity supply is disconnected, then remove the insulated plate on the underside of the terminal block and the two terminal block fixing screws will now be accessible, after removal the terminal block will be released and will be attached only to the motor leads. The speed indicator knob should also be removed.

Next, while supporting the motor underneath, unscrew the nuts on the three suspension screws which secure the motor to the unit plate. Before finally removing the motor and its mounting plate away from the unit plate, make a careful note of the sequence of steel and rubber washers on each suspension screw in order to re-assemble correctly when re-fitting the motor.

PICK-UP.

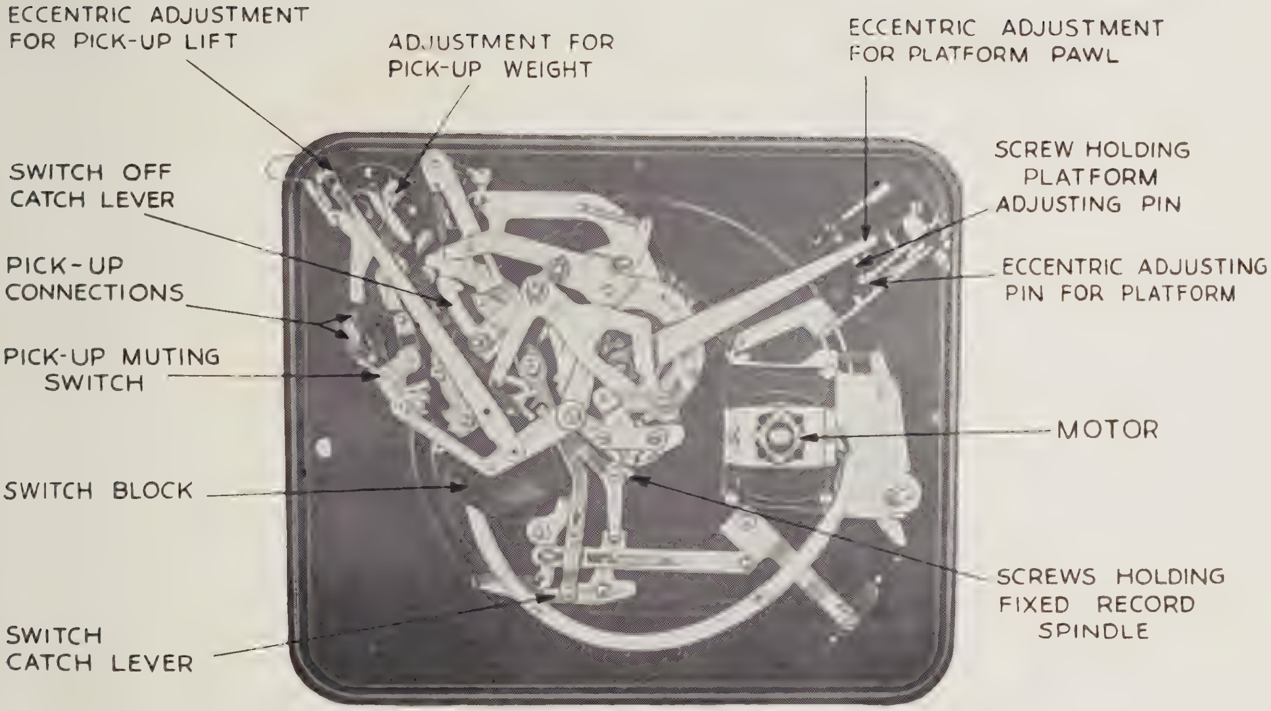
Two types of needle are necessary for playing the different types of record and a needle having a point radius of .0025″ is required for the standard 78 r.p.m. records, and one with a point radius of .001″ is required for the fine groove 33.1/3 and 45 r.p.m. records. To obviate needle changing, two plug-in pick-up heads are supplied with this changer, each having the correct weight and radius of needle for the type of record to be played. Care should be taken to see that the correct pick-up is used.

On changers destined for America, provision is made for using the American turnover or turn round types of pick-up in which the correct needle is obtained by turning over the pick-up cartridge or turning the needle.

Should trouble be experienced with the reproduction from the pick-ups, the head should be returned for examination to the manufacturer whose name or trade mark appears on the cartridge.

Crystal cartridges must not be opened or the manufacturers will disclaim all responsibility.

Note: A continuity test cannot be carried out on Crystal Pick-ups with an ohmmeter.


ECCENTRIC ADJUSTMENT FOR PICK-UP LIFT
ADJUSTMENT FOR PICK-UP WEIGHT
ECCENTRIC ADJUSTMENT FOR PLATFORM PAWL
SWITCH OFF CATCH LEVER
SCREW HOLDING PLATFORM ADJUSTING PIN
PICK-UP CONNECTIONS
ECCENTRIC ADJUSTING PIN FOR PLATFORM
PICK-UP MUTING SWITCH
MOTOR
SWITCH BLOCK
SCREWS HOLDING FIXED RECORD SPINDLE
SWITCH CATCH LEVER

Underneath View

Diagram 12

CAUTION.

When making any adjustments to the Pick-up Arm it should NEVER on any account be forced into position. If the turntable is turned by hand it should NOT be turned backwards.

PICK-UP DROPPING POSITION.

The pick-up arm dropping position is Factory adjusted for optimum accuracy. Should any minor adjustment be required rotate the screw accessible through the top plate as shown in diagram 11. Adjustment must be made only when the pick-up arm is in the rest position.

PICK-UP LIFT.

If desired, the amount the pick-up lifts can be adjusted by loosening the nut securing the "Eccentric Adjustment for Pick-up Height" (diagram 12), and adjusting the eccentric pivot with a screw driver in the slot at back. Finally, re-tighten the nut.

PICK-UP WEIGHT.

On leaving the factory the pick-up tensioning adjustment has been set to give a needle pressure on the record of 26 grammes using the "GARRARD" Miniature Plug-in Pick-up head for playing 78 r.p.m. records, and 8 grammes when the "GARRARD" Lightweight Crystal Pick-up is used for 33.1/3 and 45 r.p.m. records. However, if it is desired to use other types of pick-up, adjustment to the tensioning spring at the rear of the pick-up arm may be necessary to give the recommended pick-up weight.

To adjust the pick-up tensioning spring, pull the adjusting screw (diagram 12) until its nut is clear of the bracket, unscrew the nut to increase or screw up to decrease the pick-up weight.

Approximately plus or minus 6 grammes can be made to the pick-up weight by using the adjusting screw.

Should there be a tendency for the pick-up to track incorrectly, especially on the first record, check the pick-up weight and adjust as explained above if found lighter than 8 grammes.

If the pick-up does not run into the record grooves after alighting on the record edge, see that the record changer is level by placing a spirit level on a record on the turntable. Also make sure that the flexible wire leading to the pick-up is not twisted or held in such a manner as to prevent the free movement of the pick-up arm; also see that the associated levers are free.

PICK-UP MUTING SWITCH.

A pick-up muting switch is connected across the pick-up, to short circuit the pick-up, except when the changer is in the playing position. It is important to note that no sound will be obtained from the pick-up by flicking the needle when the pick-up is on its rest. The muting switch contacts should be closed except when the changer is in its playing position. Should this switch fail to operate, clean the contact faces, and ensure that they make and break according to the position of the changer mechanism.

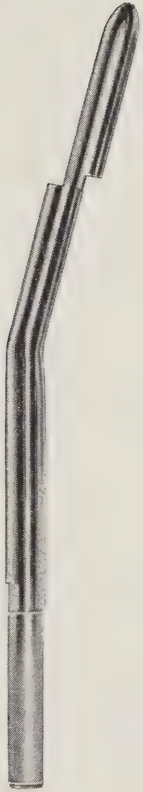
AUTO TRIP MECHANISM.

The auto trip mechanism is the velocity type and is of a special design to be very light and sensitive in operation. It is set to commence operation when the needle reaches a 2.7/8″ radius. The trip operates by the auto trip lever being raised by a small cam attached to the main spindle when the pick-up arm runs in on the record run off groove. The auto trip lever, on being lifted, pushes a small cranked rod which engages the clutch.

If the auto trip fails to operate, it may be caused by the auto trip lever being too low and it should be raised by giving the auto trip lever adjusting screw (diagram 11) about half a turn in a clockwise direction).

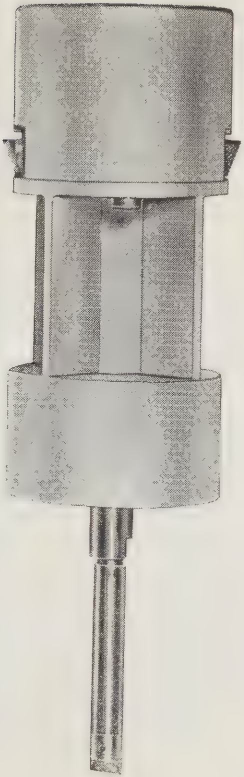
RECORD PLATFORM ADJUSTMENT.

When despatched from our Works, the record platform is set to accommodate records of average dimensions. Occasionally, however, records may be found outside the normal limits. If necessary, therefore, the platform may be adjusted to take them. To adjust the platform position, loosen the screw in the platform pivot collar (diagram 12) accessible from underneath the changer, rotate the pin by means of the slot in the



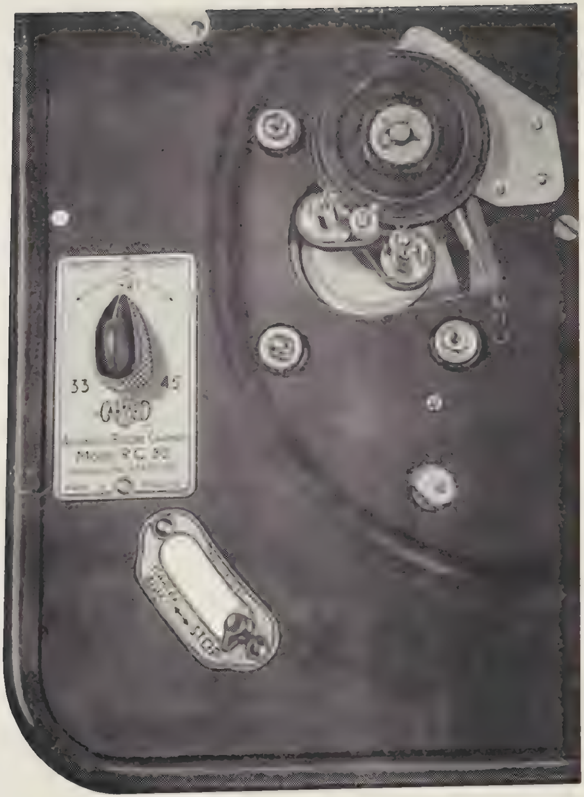
Record Spindle
for 78 & $33\frac{1}{3}$ r.p.m.
Records

Diagram 13



Record Spindle
for 45 r.p.m.
Records

Diagram 14



View of Drive with Turntable Removed

Diagram 15

end, until the platform is in the required position, then re-tighten the screw. The end of this pin is eccentric, and it is this eccentric which adjusts the platform position. Before finally tightening the screw after adjusting this pin, see that a small clearance, about 1/64″ is left between the eccentric shoulder and the side of the platform support.

Separate adjustment is provided for the platform pawl, and, to set the platform pawl, first set the platform lever in the 10″ position and operate the changer until the pawl is in its forward position. It should then be flush with the edge of the record platform. If it is not, the nut locking the eccentric adjustment for platform (diagram 12) should be loosened and the eccentric adjustment turned until the setting is correct, then re-tighten the locking nut. The pawl position should now be correct for all sizes of record.

RECORD DROPPING.

If the changer fails to drop any records other than the 45 r.p.m. type having a large centre hole, first make sure that the records are not badly warped. If they are reasonably flat, the record platform setting should be checked and adjustments made if necessary. Also check the record spindle to see that it is not bent out of position by laying it on the template (diagram 16).

Should records fail to drop correctly when using the large diameter record spindle, replace this spindle with the sloping one and see that it leans towards the record platform and is exactly in line with it. If this spindle is out of position it should be set correctly by loosening the two screws (diagram 12) holding the fixed part of the main spindle in position, turning the record spindle until it leans towards the centre of the record platform and tightening up the screws. After tightening the screws, see that the main spindle has a small amount of end play by first removing the turntable and gripping the main spindle firmly, lift it up and down. If no play is felt, loosen the two screws, lift the spindle a very small amount and re-tighten them. On fitting the large spindle the records should then drop correctly.

AUTO SWITCH.

When the last record on the record spindle drops on to the turntable, it allows the auto switch arm to move inwards far enough to switch the changer off. When any records are on the spindle, the arm does not move in far enough to allow this to happen. Should the changer fail to stop automatically, check the following points:—

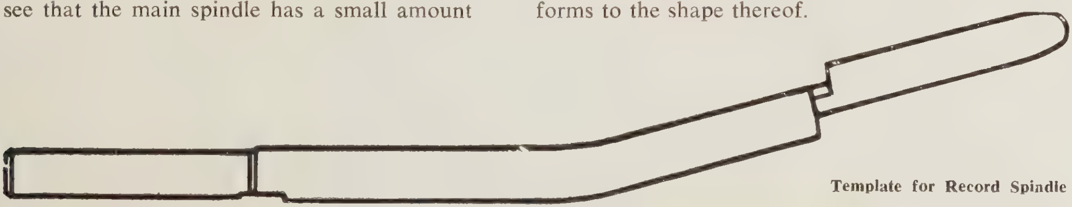
1 That the auto switch arm is in a verticle position as shown in the illustrations and that its fixing screw is tight.

2 See that the split lever holding the spindle underneath the mounting plate is also tight—it is at this point that a slight adjustment may be made to the position of the knock-off lever should it for any reason be forced out of position.

3 The auto switch catch lever (diagram 12) has a friction pivot and if this should become very free it may fail to hold the catch pin when it should engage. If this is so, remove the split pin at the catch lever pivot and stretch the friction spring a small amount, replacing the washer and split pin

TEMPLATE FOR R.C. 80 RECORD SPINDLE.

Should the sloping record spindle be accidentally bent out of position through being dropped or other reasons, the record dropping will be affected. If trouble is experienced with erratic record dropping, lay the record spindle on the template and check that it conforms to the shape thereof.



Template for Record Spindle

Diagram 16

SPARE PARTS LIST FOR R.C.80

When ordering spare parts, please quote the schedule number printed on the instruction plate of the Record Changer, and the Reference Number of the parts required.

Name of Part	Ref. No.	Name of Part	Ref. No.
Record Spindle (Small)	B.48741	Pulley (45 r.p.m.)	A.48858
Record Spindle (Large)	B.48480	Pulley (33 1/3 r.p.m.)	A.48861
Turntable	A.48743	Cover for Change Over Block	B.45473
Turntable Cover	A.47060	Screw for Cover	A.40045
Pick-up Arm, with Bracket	B.48940	Switch Contact Spring with Bracket ...	A.A.47874
Inter Wheel with Rubber Ring	A.46524	Switch Contact Spring with Bracket ...	B.A.47876
Rubber Belt	A.48581	Rotor Spindle with Rotor	A.48592
Motor Pulley (50 cycles)	A.48595	Plug-in Crystal Cartridge Case with Accessories	C.48892
Motor Pulley (60 cycles)	A.48594		

Printed in England at the Borough Press, Swindon.

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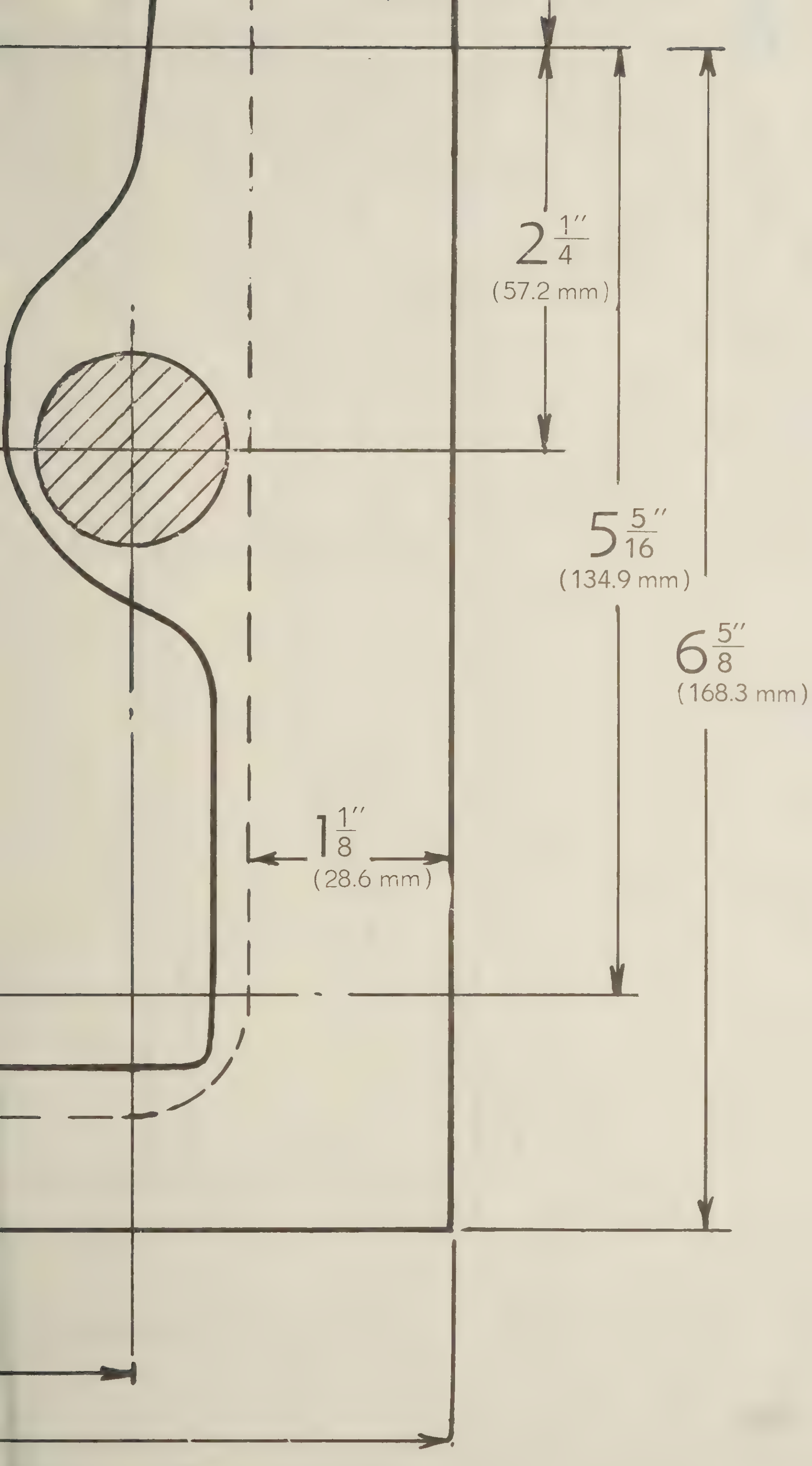
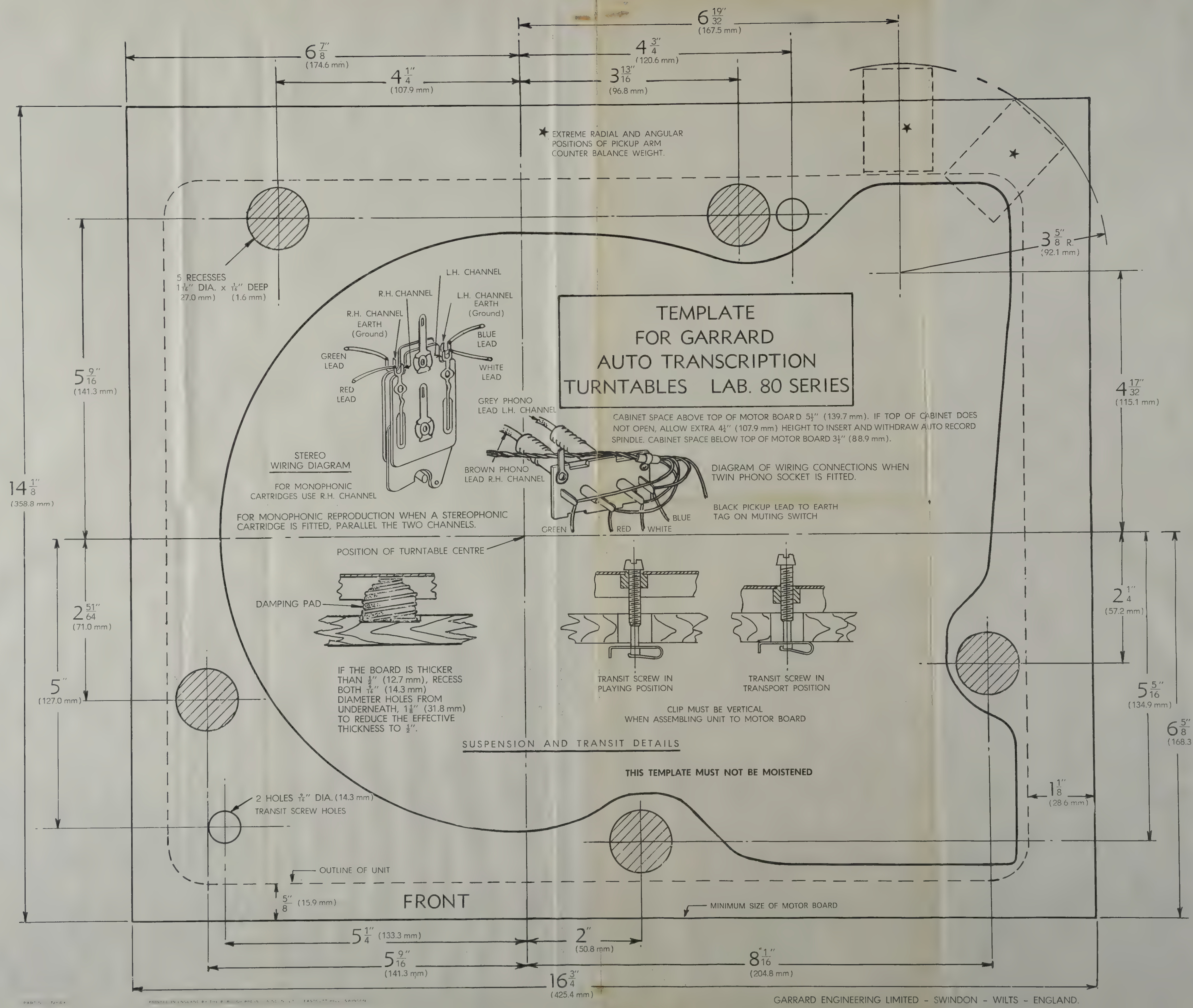


$2\frac{1''}{4}$
(57.2 mm)
$5\frac{5''}{16}$
(134.9 mm)
$6\frac{5''}{8}$
(168.3 mm)
$1\frac{1''}{8}$
(28.6 mm)

GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD GARRARD



TEMPLATE FOR GARRARD AUTO TRANSCRIPTION TURNTABLES LAB. 80 SERIES

★ EXTREME RADIAL AND ANGULAR POSITIONS OF PICKUP ARM COUNTER BALANCE WEIGHT.

5 RECESSES 1 1/16″ DIA. x 1/16″ DEEP (27.0 mm) (1.6 mm)

CABINET SPACE ABOVE TOP OF MOTOR BOARD 5½″ (139.7 mm). IF TOP OF CABINET DOES NOT OPEN, ALLOW EXTRA 4¼″ (107.9 mm) HEIGHT TO INSERT AND WITHDRAW AUTO RECORD SPINDLE. CABINET SPACE BELOW TOP OF MOTOR BOARD 3½″ (88.9 mm).

STEREO WIRING DIAGRAM

FOR MONOPHONIC CARTRIDGES USE R.H. CHANNEL

FOR MONOPHONIC REPRODUCTION WHEN A STEREOPHONIC CARTRIDGE IS FITTED, PARALLEL THE TWO CHANNELS.

DIAGRAM OF WIRING CONNECTIONS WHEN TWIN PHONO SOCKET IS FITTED.

BLACK PICKUP LEAD TO EARTH TAG ON MUTING SWITCH

IF THE BOARD IS THICKER THAN ½″ (12.7 mm), RECESS BOTH 9/16″ (14.3 mm) DIAMETER HOLES FROM UNDERNEATH, 1¼″ (31.8 mm) TO REDUCE THE EFFECTIVE THICKNESS TO ½″.

TRANSIT SCREW IN PLAYING POSITION

TRANSIT SCREW IN TRANSPORT POSITION

CLIP MUST BE VERTICAL WHEN ASSEMBLING UNIT TO MOTOR BOARD

SUSPENSION AND TRANSIT DETAILS

THIS TEMPLATE MUST NOT BE MOISTENED

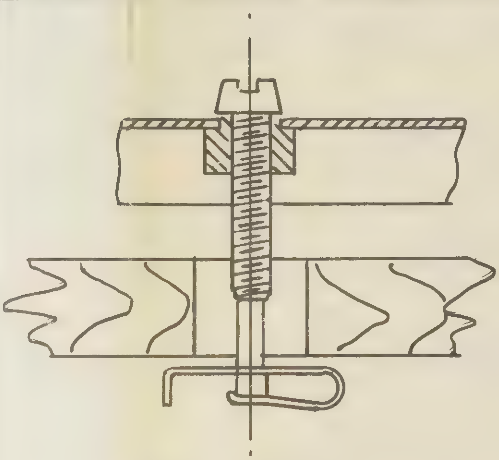
2 HOLES 9/16″ DIA. (14.3 mm) TRANSIT SCREW HOLES

PART No. [illegible]

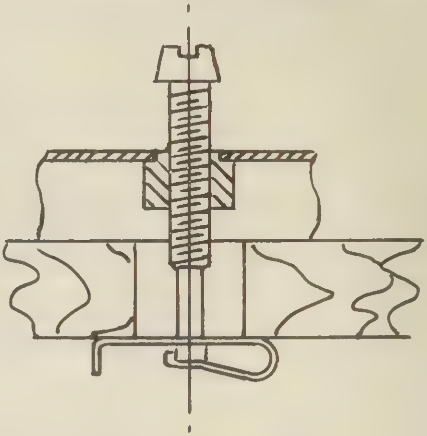
PRINTED IN ENGLAND BY THE [illegible] PRESS [illegible] EASTCOTT HILL SWINDON

GARRARD ENGINEERING LIMITED - SWINDON - WILTS - ENGLAND.

BLACK PICKUP LEAD TO EARTH
TAG ON MUTING SWITCH



TRANSIT SCREW IN
PLAYING POSITION

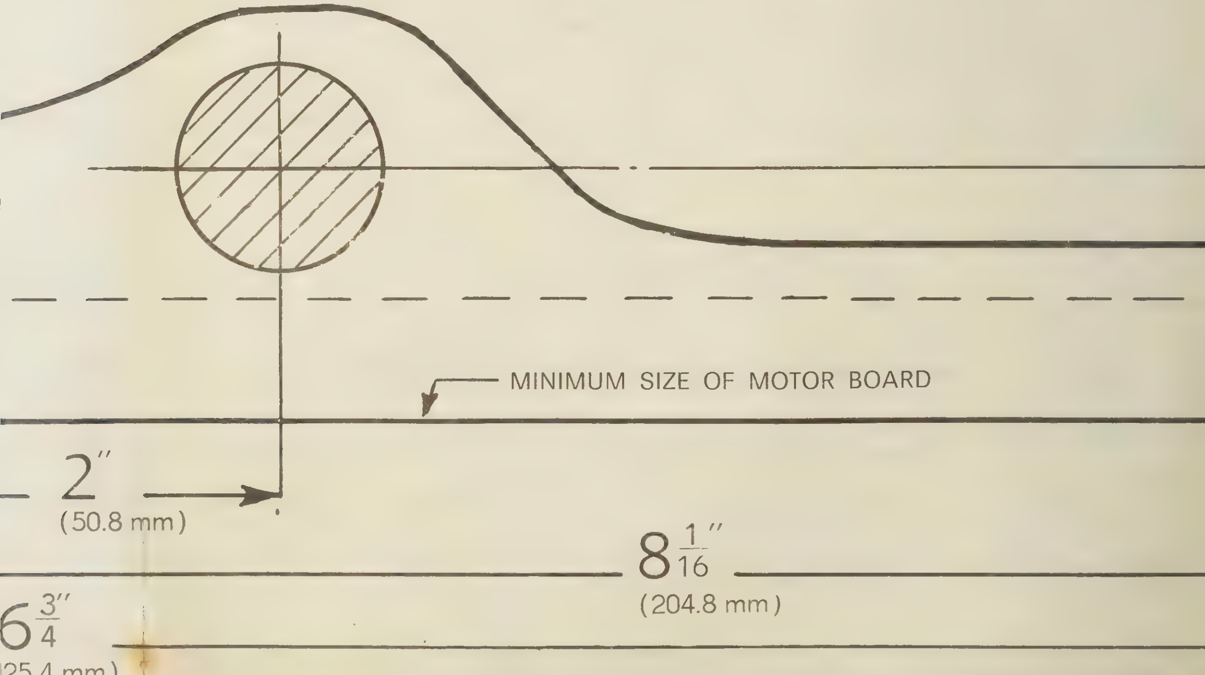


TRANSIT SCREW IN
TRANSPORT POSITION

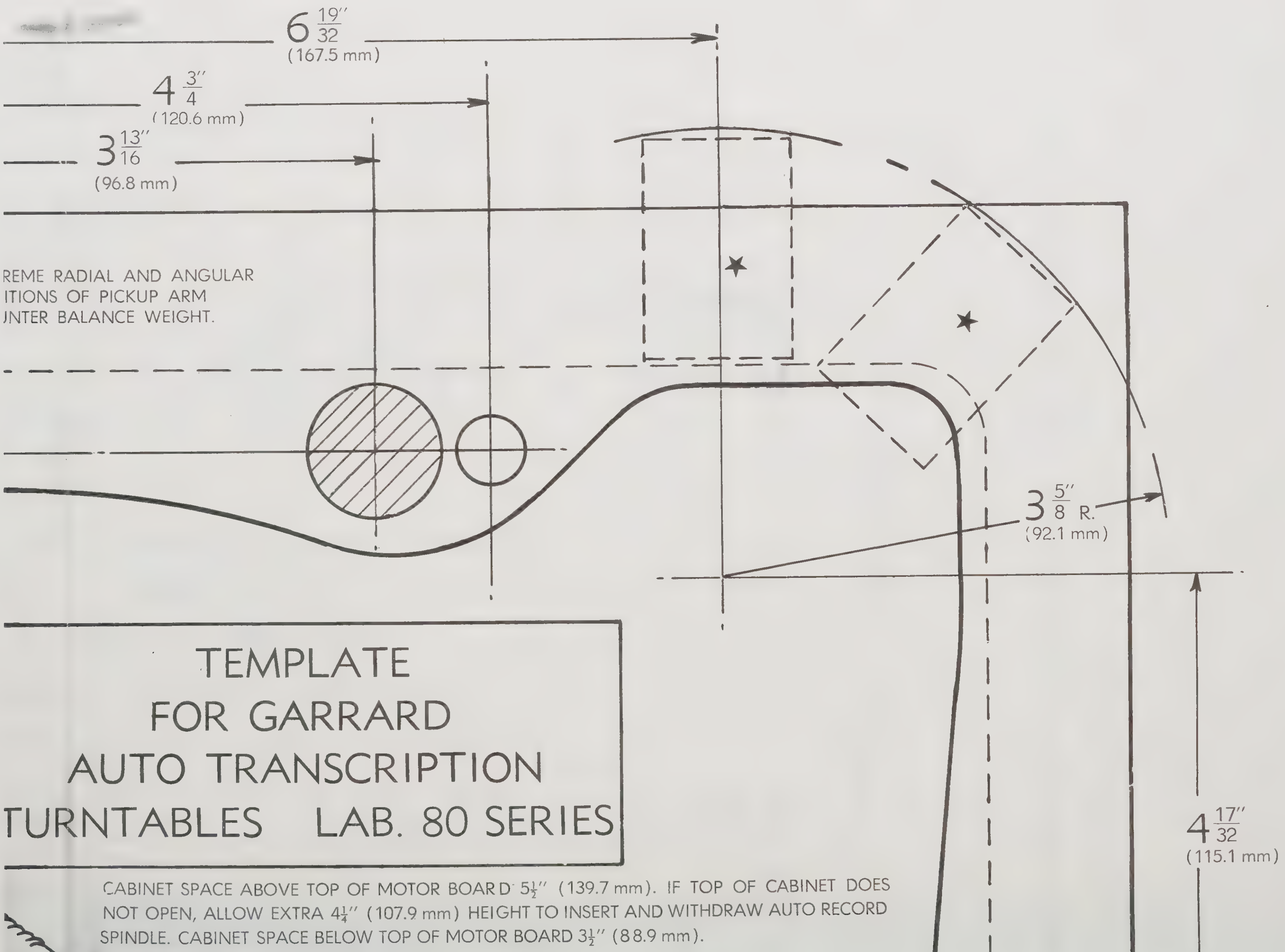
CLIP MUST BE VERTICAL
WHEN ASSEMBLING UNIT TO MOTOR BOARD

ND TRANSIT DETAILS

THIS TEMPLATE MUST NOT BE MOISTENED



GARRARD ENGINEERING LIMITED



TEMPLATE FOR GARRARD AUTO TRANSCRIPTION TURNTABLES LAB. 80 SERIES

CABINET SPACE ABOVE TOP OF MOTOR BOARD 5½″ (139.7 mm). IF TOP OF CABINET DOES NOT OPEN, ALLOW EXTRA 4¼″ (107.9 mm) HEIGHT TO INSERT AND WITHDRAW AUTO RECORD SPINDLE. CABINET SPACE BELOW TOP OF MOTOR BOARD 3½″ (88.9 mm).

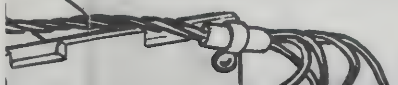
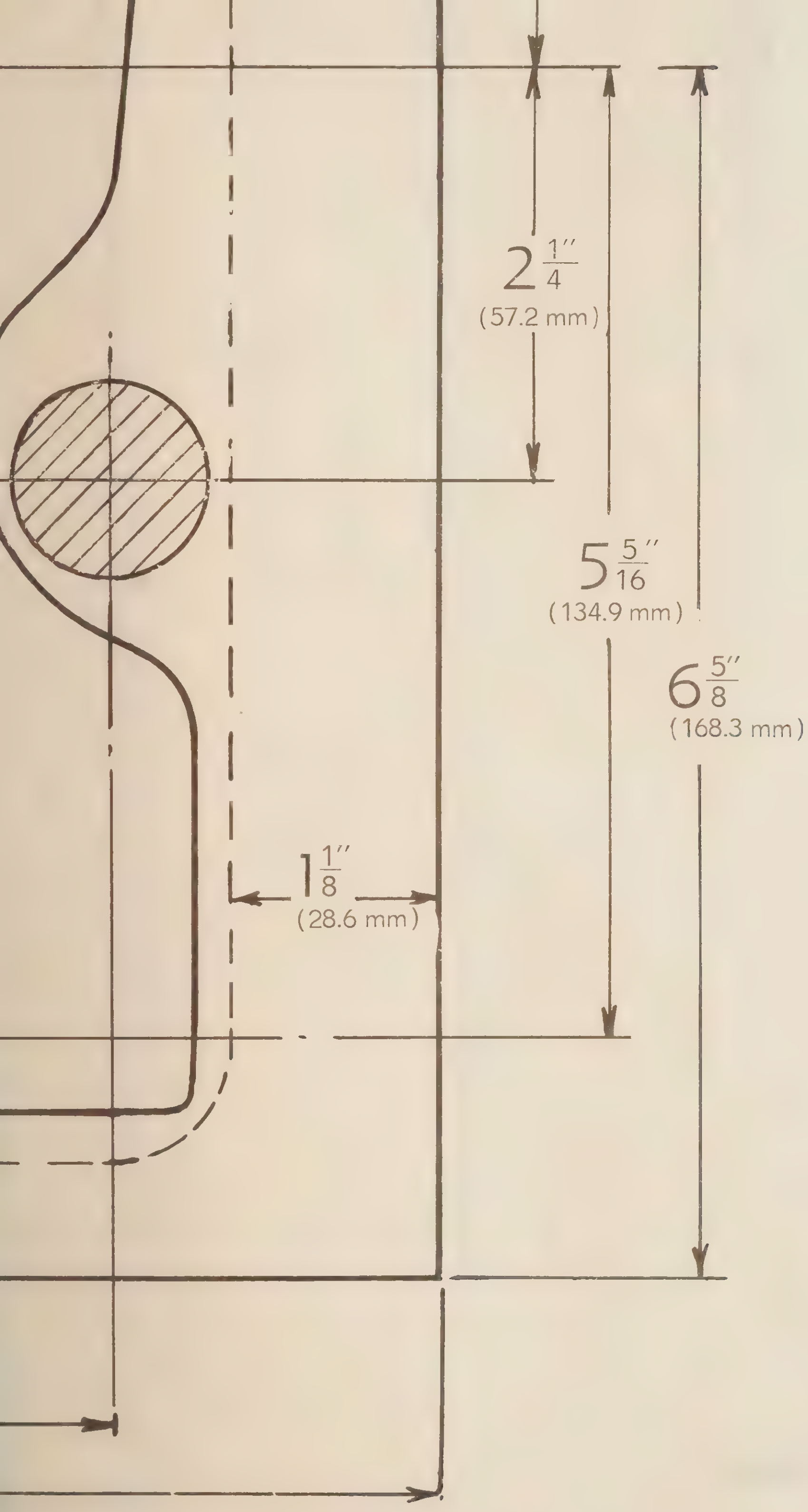


DIAGRAM OF WIRING CONNECTIONS WHEN TWIN PHONO SOCKET IS FITTED



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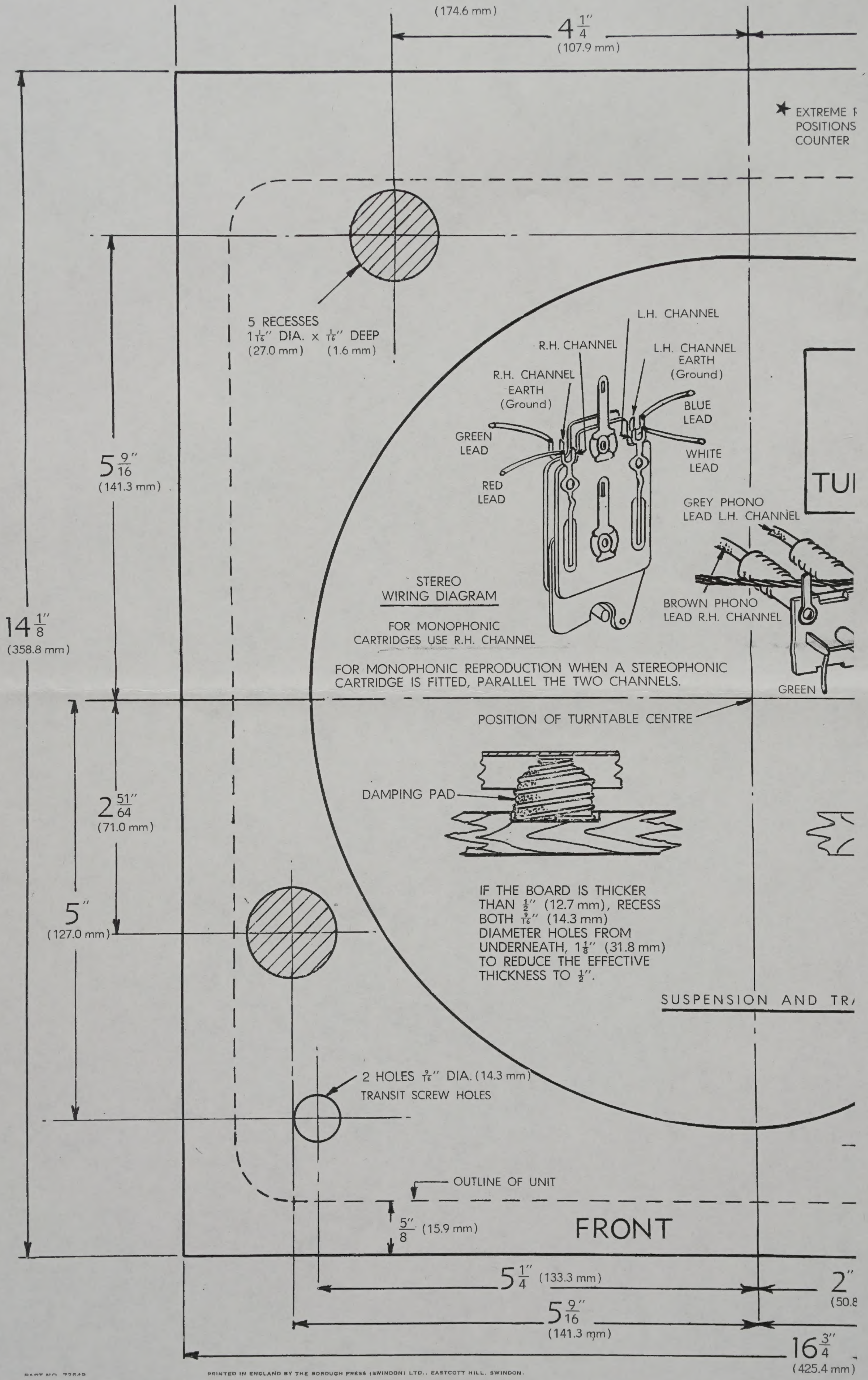

STEREO WIRING DIAGRAM

FOR MONOPHONIC CARTRIDGES USE R.H. CHANNEL

FOR MONOPHONIC REPRODUCTION WHEN A STEREOPHONIC CARTRIDGE IS FITTED, PARALLEL THE TWO CHANNELS.

IF THE BOARD IS THICKER THAN 1/2″ (12.7 mm), RECESS BOTH 9/16″ (14.3 mm) DIAMETER HOLES FROM UNDERNEATH, 1 1/4″ (31.8 mm) TO REDUCE THE EFFECTIVE THICKNESS TO 1/2″.

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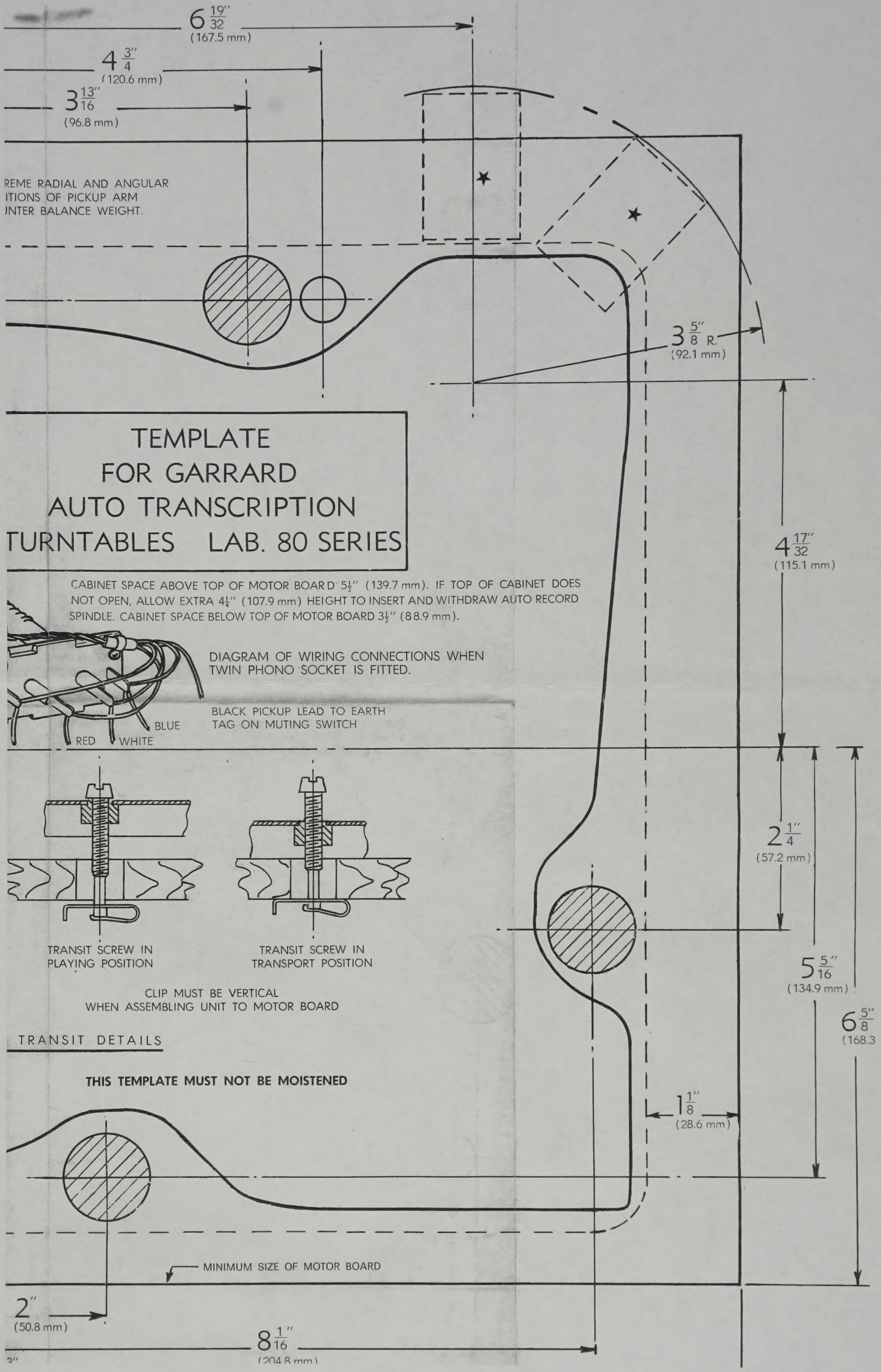


$6\frac{19}{32}''$ (167.5 mm)
$4\frac{3}{4}''$ (120.6 mm)
$3\frac{13}{16}''$ (96.8 mm)
REME RADIAL AND ANGULAR
ITIONS OF PICKUP ARM
JNTER BALANCE WEIGHT.
$3\frac{5}{8}''$ R. (92.1 mm)
$4\frac{17}{32}''$ (115.1 mm)
$2\frac{1}{4}''$ (57.2 mm)
$5\frac{5}{16}''$ (134.9 mm)
$6\frac{5}{8}''$ (168.3
$1\frac{1}{8}''$ (28.6 mm)
RED
WHITE
BLUE
MINIMUM SIZE OF MOTOR BOARD
2″ (50.8 mm)
$8\frac{1}{16}''$ (204.8 mm)
3″

TEMPLATE
FOR GARRARD
AUTO TRANSCRIPTION
TURNTABLES LAB. 80 SERIES

CABINET SPACE ABOVE TOP OF MOTOR BOARD $5\frac{1}{2}''$ (139.7 mm). IF TOP OF CABINET DOES NOT OPEN, ALLOW EXTRA $4\frac{1}{4}''$ (107.9 mm) HEIGHT TO INSERT AND WITHDRAW AUTO RECORD SPINDLE. CABINET SPACE BELOW TOP OF MOTOR BOARD $3\frac{1}{2}''$ (88.9 mm).

DIAGRAM OF WIRING CONNECTIONS WHEN TWIN PHONO SOCKET IS FITTED.

BLACK PICKUP LEAD TO EARTH TAG ON MUTING SWITCH

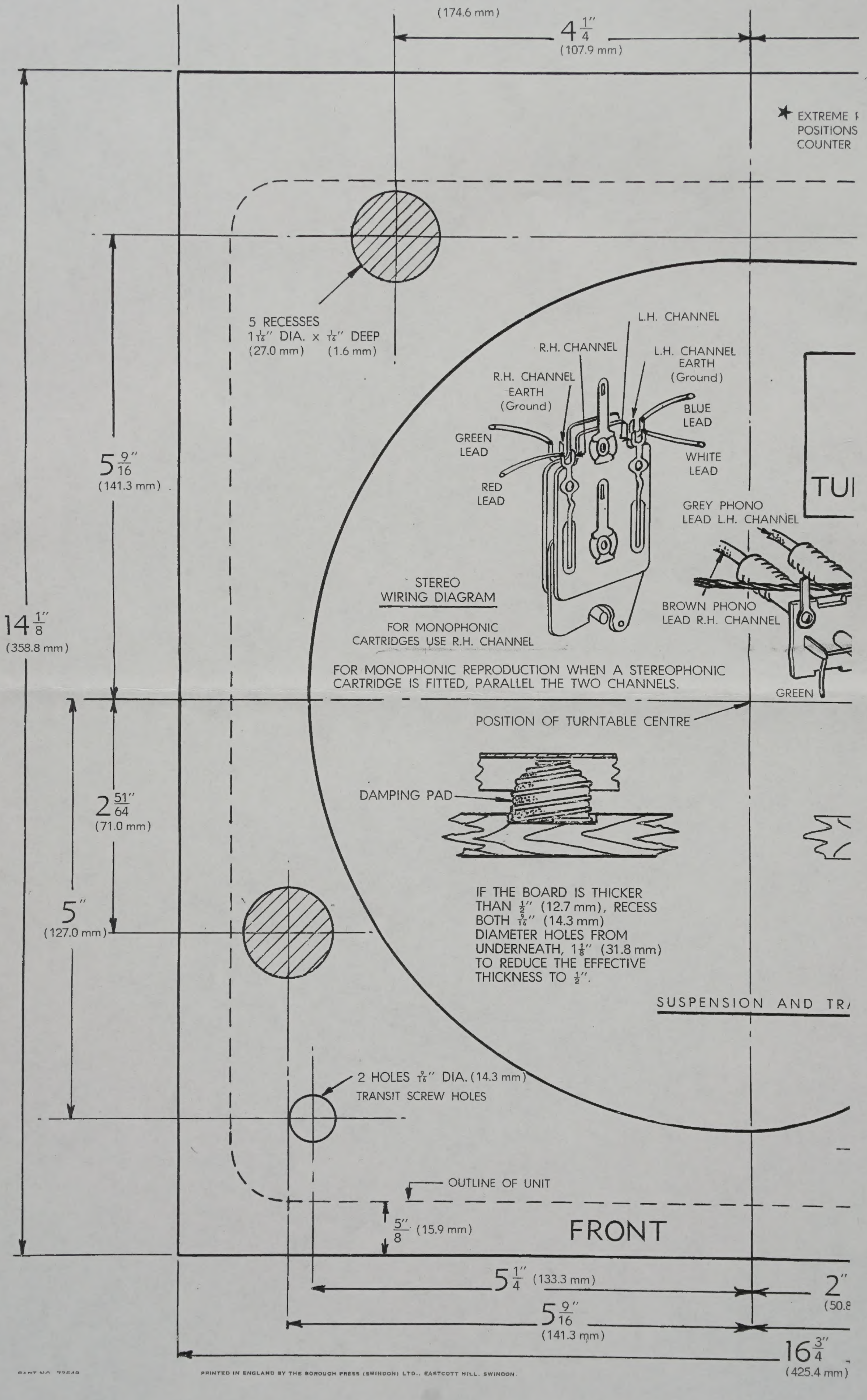
TRANSIT SCREW IN PLAYING POSITION

TRANSIT SCREW IN TRANSPORT POSITION

CLIP MUST BE VERTICAL
WHEN ASSEMBLING UNIT TO MOTOR BOARD

TRANSIT DETAILS

THIS TEMPLATE MUST NOT BE MOISTENED



STEREO WIRING DIAGRAM

FOR MONOPHONIC CARTRIDGES USE R.H. CHANNEL

FOR MONOPHONIC REPRODUCTION WHEN A STEREOPHONIC CARTRIDGE IS FITTED, PARALLEL THE TWO CHANNELS.

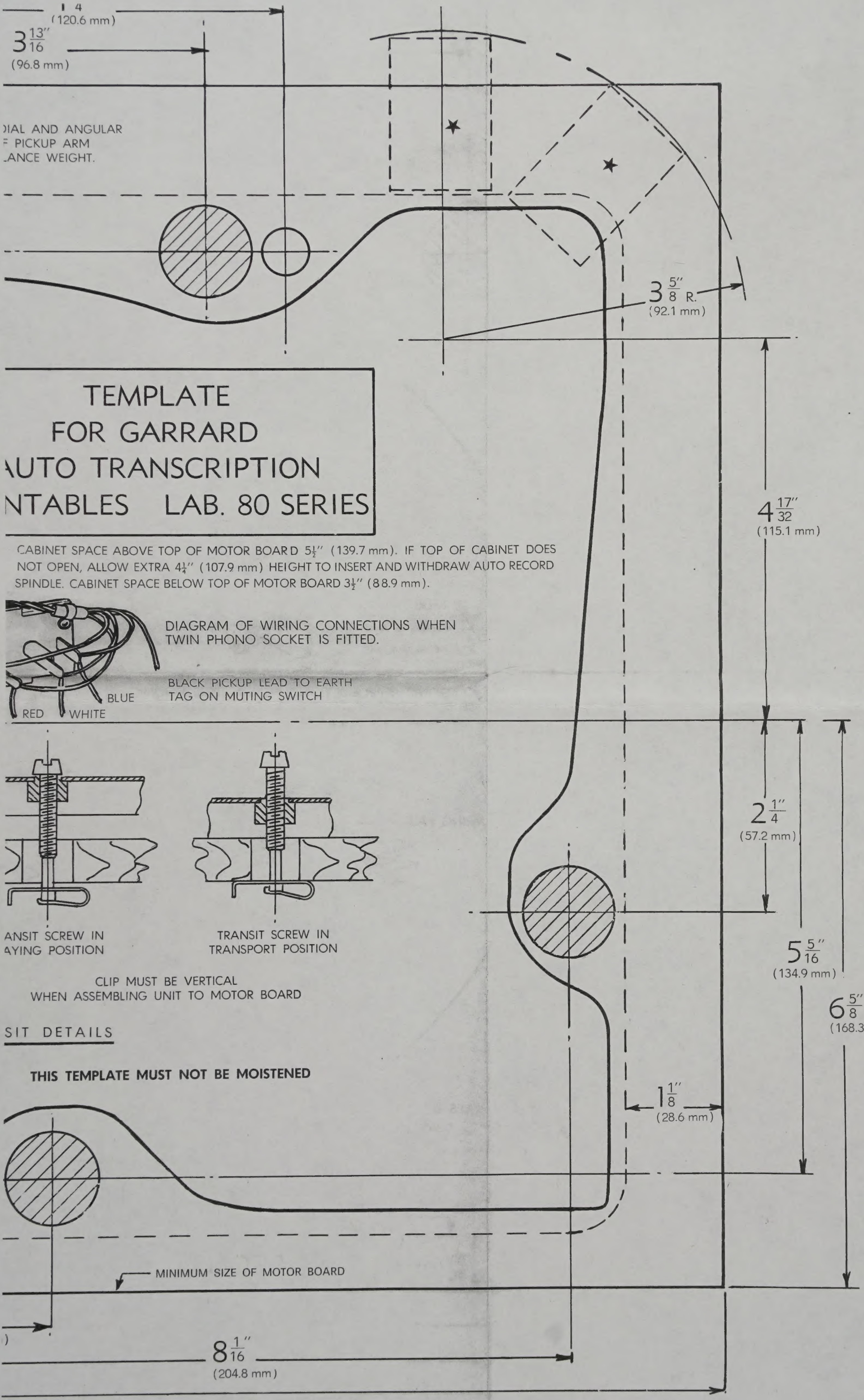
IF THE BOARD IS THICKER THAN ½" (12.7 mm), RECESS BOTH 9/16" (14.3 mm) DIAMETER HOLES FROM UNDERNEATH, 1⅛" (31.8 mm) TO REDUCE THE EFFECTIVE THICKNESS TO ½".

PART NO. 72549

PRINTED IN ENGLAND BY THE BOROUGH PRESS (SWINDON) LTD., EASTCOTT HILL, SWINDON.

TEMPLATE
FOR GARRARD
AUTO TRANSCRIPTION
NTABLES LAB. 80 SERIES

CABINET SPACE ABOVE TOP OF MOTOR BOARD 5½" (139.7 mm). IF TOP OF CABINET DOES NOT OPEN, ALLOW EXTRA 4¼" (107.9 mm) HEIGHT TO INSERT AND WITHDRAW AUTO RECORD SPINDLE. CABINET SPACE BELOW TOP OF MOTOR BOARD 3½" (88.9 mm).



ANSIT SCREW IN
AYING POSITION

TRANSIT SCREW IN
TRANSPORT POSITION

CLIP MUST BE VERTICAL
WHEN ASSEMBLING UNIT TO MOTOR BOARD

SIT DETAILS

THIS TEMPLATE MUST NOT BE MOISTENED

GARRARD ENGINEERING LIMITED - SWINDON - WILTS - ENGLAND.